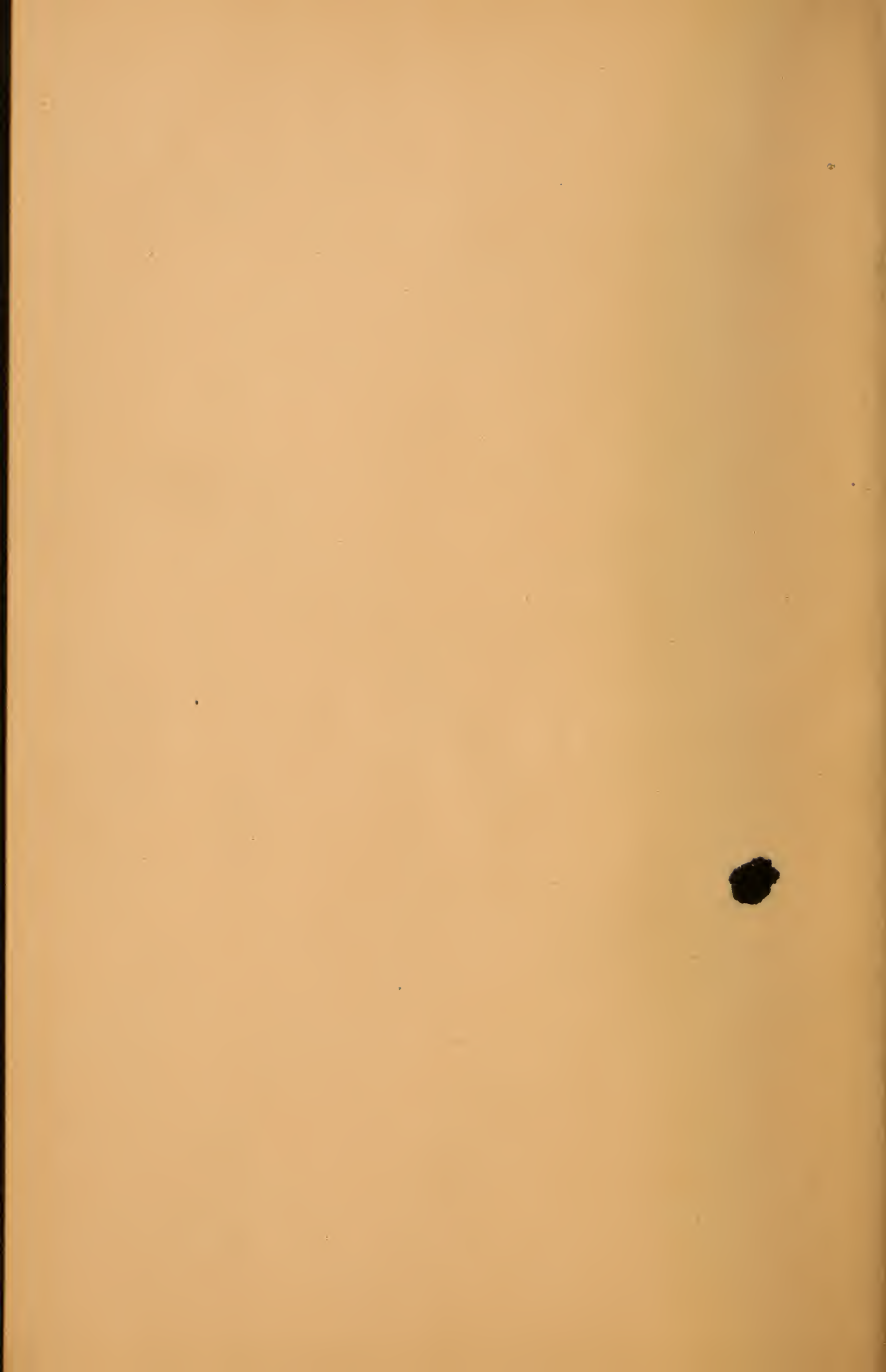


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HEALTH OF OUR CHILDREN

BY

"DOCTOR FRANK"



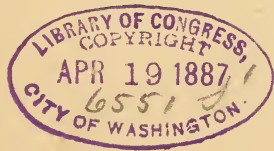
HEALTH OF OUR CHILDREN.

BY

"DOCTOR FRANK,"

AUTHOR OF "A HOUSEHOLD GUIDE IN HEALTH AND DISEASE,"
"HEALTH IN OUR HOMES," ETC.

Joseph Franklin Perry
m. d.



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PREFACE.



THE fact is undeniable that two-thirds of the cases of illness among young children might be prevented if those responsible for their welfare would only obey the simple laws of nature, and in their management display a reasonable amount of common sense. Realizing, after years of practice, as all other physicians do, that the appalling waste of life is, clearly due to preventable causes, and that the great majority of children who have died might have been saved had proper care been given them and reasonable precaution been taken by their parents, the writer has felt that there was no field in which he could labor with the promise of better results than this he has entered. In the simplest language possible, on the following pages, he puts before the reader the important essentials in the care and management of children. Those points especially are dwelt upon, on which mothers are most likely to be in doubt, and which experience has taught him are the first in importance in the prevention of disease. The ardent hope is indulged that his series of hints will be found instructive and of assistance to mothers in the care of their little ones.

AUTHOR.

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HEALTH OF OUR CHILDREN.



CHAPTER I.

Mortality among children. — More than one-third under five years die. — The duty of every individual. — Unfortunate conceit of older mothers. — Not infrequently dangerous counsellors. — The inconsistency of their claims to unusual discernment. — The injury which they often do. — Defeating the efforts of physicians. — Honest criticism. — Delusions easily acquired and with difficulty eradicated. — Young mothers the best nurses. — The design of the author.

IF an effort is made to lessen the mortality of a community, it must first of all be directed to improving the condition of children, as it is their loss that swells the death rate. In France, according to Bouchut, one-sixth of all born die in the first year of life; in Sweden and Finland, one-fifth; in Berlin, Prussia, one-third. In Philadelphia, 1883, according to Hartshorne, there were 16,736 deaths at all ages, of which 5,121 were under one year of age, 7,151, or about one in 2.33 of all deaths, under five years of age.

In the report of the board of health of Boston for 1885 is given a table showing the total number of

deaths under five years of age, and five years and over, for fifteen years, commencing with 1871. It is noted that the total number of deaths at all ages was 124,833, and of this number 49,229 were children under five years old. That is, considerably over one-third of all the deaths recorded took place in children under the age stated, and yet intelligent physicians, perfectly familiar with the causes of infant mortality, do not hesitate to say that among those born with healthy constitutions, and under entirely favorable circumstances, the mortality during infancy and childhood ought to be less than at any other period of life.

In England, Dr. Farr has proved by his reports that the diseases of childhood are twice as fatal in towns as in the country. Thus it will be seen that the first step in sanitary reform should be directed to lessening, if possible, this excessive mortality among children, and that it can be lessened none can deny; but the remedy is by no means with the health authorities; it is within the province, and should be the duty of all to assist in the work which promises such beneficent results.

A few hints on the care of infants may be of interest to young mothers; older mothers, as a rule, after a brief experience, conclude that they have acquired all that there is to learn, and are inclined to distrust

the efforts of physicians to dispel the delusions which are so common among them. The value of experience is not to be underrated; nevertheless it is a "dear teacher," as not a few have found, and not infrequently, while the mothers have been acquiring it, their infants have sadly suffered from experimental treatment, as the following case illustrates.

Recently the writer was called to attend an infant made seriously ill solely by the want of proper care. The mother was at once taken to task for her glaring faults in management, and asked from what source she had acquired such stupid notions. An elderly woman in the room came to her rescue, and said that she had taught her how to care for her baby, and having had nine children, she felt, she said, that she was competent to give instructions to the young mother. This elicited the inquiry how many of the nine were living, and it was learned that but one among them all had survived; the others had died in childhood. The writer felt impelled to say that, in view of the methods which she had evidently employed, that one must either have had a powerful constitution or Providence had interposed to save him. It is such advisers as these who help swell the infant death rate.

An expression which one occasionally hears used is "that there are more children killed by old ladies

than by disease." It is a severe thing to say, and one naturally hesitates to indorse the assertion ; still, there is a basis of truth for it, and among those people who cannot unjustly be called ignorant, many infants' lives are sacrificed by reason of improper treatment, advised by those well-meaning, but, none the less, dangerous counsellors. While they predominate in the lower classes, unfortunately they are not confined to them, and the results of their work are seen in every station in life. Not a few of them cannot read or write, and yet they are familiar with every disease and the treatment it demands, and feel competent to sit in judgment when the skill of the physician is discussed. Fortunate is the professional who wins their indorsement ; they can make or unmake him in families to which they have access, and yet his hold upon their esteem, as upon "princes' favors," is never secure ; let it once appear that he underestimates their importance, and they will soon convince themselves and others that he is lacking in professional skill and discernment.

It may be said that this brief reference shows a lack of reverence, and that a mantle of charity should be thrown over the faults of those well-meaning people, and they be excused on the ground of good intentions. Were other than health and life at issue, the criticism might be warranted ; but in this instance

it is not, for there is too much at stake. Almost every physician who has been long in practice will say that, as a rule, they are more successful in the treatment of children, the mother of which is young and inexperienced, than they are in families where the mothers are older, have had more experience, and acquired delusions which argument will not infrequently fail to dispel, and which must necessarily obstruct his efforts, and also prejudice his success.

The writer will touch here and there on points in the general management of children upon which, in his experience, mothers are most likely to err. No finished treatise will be attempted, but in a series of talks, as it were, will advice be given.



CHAPTER II.

Infant feeding. — Difficulties attending the discussion of the subject. — Inviolable duty of mothers. — Child nourished at the breast. — Faults in the mother which grievously affect the health of her infant. — Mental disturbances. — Mischievous consequences of overfeeding. — Rules to be observed during the first six weeks. — No feeding during the night. — Simple expedient to save the strength of the mother. — How often to nurse the baby.

THE subject of infants' feeding is one which cannot be understandingly treated unless it is viewed from every standpoint; and so manifold are the conditions which must influence the food selection, many pages might be written ere the treatise were completed. First must be considered the three ways in which infants are nourished; namely, by the mother, by a wet-nurse, and by artificial means. Then there are the laws of diet, the proper conduct of nurses, their state of health, the influences which they encounter, and their effects upon the infants they nourish; all these must be considered, together with manifold contingencies, some of which present but slight outward differences yet widely differ in true significance. Even when these were discussed, there would remain much of importance to dwell upon.

Thus it will be seen that the subject of food selection for infants is wellnigh exhaustless. It is only permitted the writer to lightly touch upon a few points of special importance; he will also endeavor to dispel some of the delusions of which, unfortunately, many mothers are possessed.

The assertion that every mother should nourish her child, if possible, will bear repetition. Many decline to do so through caprice; there are but few who cannot if they choose, provided they take the right course in the beginning. To point out that is the duty of the family physician; and if his advice is invariably followed, the advantages both to the mother and her little ones will be incalculable. A fact of prime importance which should be impressed upon all nursing mothers is this: if they expect their infants to thrive and remain well, they must themselves maintain good health.

If a mother is ailing, her infant at the breast must also be more or less ill. If she is careless about her diet, and indulges in food which causes dyspeptic symptoms, the fact is registered in her child, and colicky pains, and possibly vomiting and diarrhœa, are the consequences. If she is a woman of a fretful, irritable nature, then her infant will be troublesome, peevish, and sickly. Many a child has been made seriously ill simply because its mother gave

way to a "fit of temper"; great mental disturbance diminishes or vitiates the secretion of the mother's milk, and it becomes hurtful to the nursing child.

A very common complaint from which mothers suffer is constipation, and yet often they will persist in dosing their infants for the same disorder without ever thinking of treating themselves—the only sensible course for them to pursue. When this irregularity is common to both, then little or no medicine will be needed by the child, but the mother should employ upon herself the proper remedies, regulate her diet, etc.

It is natural that mothers should be solicitous for their offspring; it is, nevertheless, exceedingly unfortunate that many may not improperly be said to be over-solicitous, especially regarding bounty in feeding. In their assiduous endeavors to guard against even momentary hunger, too often they keep their stomachs overloaded both day and night. It is well for them to understand that the consumption of a large amount of food does not by any means imply that the increase in growth will be correspondingly great. For instance, if a baby takes more nourishment than it really needs, it is liable to grow thin; while if the quantity is lessened, it will grow fat.

It must not be forgotten that there is a physical law, that activity and repose must alternate; that is,

that periods of rest are absolutely necessary to every organ of the body. If the digestive organs are overworked, and the essential periods of rest are denied them, or they are so shortened that entire restoration does not occur, then they become weakened, are incapable of properly performing their functions, and, unless the needed relief comes to them, in time they will become powerless. Again, it should be remembered that the digestive organs of an infant are naturally feeble, and that regularity in feeding is of even more importance to them than it is to adults. The functions of those organs are so intimately concerned in the growth of the child that any impairment, if it is not soon corrected, is likely to result seriously.

During the first six weeks of life an infant should be fed every two hours during the day, but at night it should sleep at least six hours without feeding. If the mother retires at 11 P.M., it should then be given its food, and no more will be needed until 5 or 6 A.M. How few mothers there are who observe this rule with their little ones! If all would follow it, far better health would be enjoyed both by the mothers and children. The custom of many who insist upon nursing their infants during the night is a most pernicious and sinful one, for it is alike destructive to the mother and babe. The former should have at least six hours unbroken sleep every night, or her

general health will soon become so impaired, or her nervous system so weakened, that she will be rendered entirely unfit to nourish her child; and the same period of rest is equally as essential to the little one. Some infants, it is true, at first rebel, awake and cry in the night. If they do so, it is very rarely an excuse for night feeding. A bottle should be provided and a little milk and water or sugar and water given; generally this is all that is necessary to pacify them, and by this management persisted in for a short time, the custom of sleeping six or seven hours every night will be formed, and then no further trouble will be experienced.

After the sixth week the interval between nursings should be gradually lengthened, and when the fourth month is reached, food need not be administered oftener than every three hours. Until the period of weaning, food may be given every three or four hours, as seems best suited to the child, regularity, of course, being an absolute essential.



CHAPTER III.

Infant feeding. — Pernicious habit of many mothers. — Causes of crying. — Dangers from too frequent nursing. — Death a common consequence. — Injunction not to be disregarded. — Colic. — Plan for relief. — Troublesome infants. — Evidences of disease. — Substitute for milk. — Thirst. — Importance of water. — Cholera infantum. — Persistent vomiting. — Feeding with a spoon. — Bottle feeding. — Exceptional cases. — Peculiarities of some children.

THE first thing which the average mother does when her child cries is to feed it. This is one of the most serious of mischief-working habits, and it is one which, if persisted in, is likely to prove destructive to the child. Babies, of course, do cry from hunger, but just as often, if not oftener, they cry from some other cause. Among the most common causes are colic, and the pain and discomfort induced by indigestion. It ought not to be difficult for any mother to recognize when her child is hungry; she must be exceedingly dull if she cannot do so, and, unless the child is hungry, it ought not to be necessary to say that food should not be given it. But unfortunately it is necessary to repeat this injunction over and over again, and

to point out the dangers of disregarding it, for it is one of the rocks on which so many mothers founder.

In slightly changed language an accepted authority says on this subject: It stands without saying that the cry of hunger must be relieved by giving food; but this is the very worst thing to do under other circumstances, for it both breaks up good habits, and produces serious mischief as well. The pain of colic and the discomfort of indigestion are chiefly due to the accumulation of gas in the intestines, resulting from the fermentation of food. Mothers soon learn, and unfortunately infants, too, that the breast milk temporarily relieves suffering. This it does in the same way as any warm liquid; but, unlike a simple fluid, milk only adds more material to the already fermenting contents of the stomach and intestines, and every nursing is soon followed by more pain, and, between crying and nursing and nursing and crying, the infant's life is passed in misery, if not cut short altogether. Instead of continuous food, the plan for relief is to decrease the quantity of food by giving it less often and shortening the time the child is allowed to nurse, while medicines are employed to strike to the root of the evil.

Not infrequently mothers complain that their chil-

dren are naturally peevish and troublesome, "always fretty," as many say, and they sleep but little and cry much. They assume that the irritable quality is inborn, and an essential part of their composition, and more often do they fail to recognize it as an evidence of disease. A troublesome, crying child cannot be healthy, and mothers should be assured of this fact and endeavor to determine the cause; if they fail to discover and remove it, then it is clearly their duty to seek the advice of a physician. In some children the ruinous habit of too frequent feeding may become so fixed that no little trouble will be met before they can be made contented with the needed change of food at longer and regular intervals. In such cases it will be easy to substitute some simple liquid, such as milk and water, sugar-water, or, what is generally very acceptable, gum-arabic water.

Children often cry from thirst; that is, from a desire for water. It never need be denied them, excepting, of course, in cases where the stomach rejects it, and such cases will be found very uncommon. In cholera infantum vomiting is usually persistent, and yet not infrequently the same will be controlled if ice-water is freely given. The writer has seen cases in which remedies to check vomiting had been administered without any benefit, and

still, when ice-water was given and the children were allowed to drink deeply, possibly nearly a glassful, not only did the vomiting cease, but all the other symptoms at once begun to subside. This suggests the need of teaching infants at as early an age as possible to take liquids directly from a spoon or cup. Some physicians maintain that this method of feeding, to which the little ones very readily conform, is much less objectionable than by the bottle. Be it as it may, the children can be reared perfectly well upon the bottle if the proper care is used.

While insisting upon the rule that regularity in feeding is an absolute essential to the welfare of infants, and that in the vast majority of cases food should be given no oftener than advised in the previous chapter, the fact is recognized that there are occasional cases in which these intervals must be shortened, and possibly it will be necessary to administer food once or twice during the night. Such cases are exceedingly rare, however, and can scarcely include healthy infants. It is not too much to say that, after they are four months old, they certainly ought not to be fed oftener than once in three hours; at least, unless a physician deems it necessary. There are some children who need food less often than others, and even longer intervals between the

nursings than those advised may be allowed. When this peculiarity is known to exist, it should be respected, and food should not be forced upon them so long as they sleep well, do not cry when awake, and are generally healthy and thriving.



CHAPTER IV.

Infant feeding. — Reasons why some mothers should not nurse their infants. — Moral and physical defects. — Inheritance. — Difficulties in nursing children artificially. — Selection of the nursing-bottle. — Convenient but deadly inventions. — One cause of infant mortality. — Dangers which cannot be exaggerated. — A familiar sight. — The indifferent mother and her wanton methods. — How infants are killed. — A proper nursing-bottle. — Simplest apparatus. — Approved form.

AS previously stated, every mother who can nourish her child should do so. By this it must not be interpreted that an adequate supply of milk is the only essential, and that all mothers endowed with it can properly nurse their children. The question of quality is of prime importance. If a mother has milk sufficient in quantity and yet it is poor in nutritive elements, and the child is sickly and does not thrive, then it would be far better if it were fed from a bottle. On this subject Starr says, in slightly changed language: There is no doubt, though the statement is a bold one and seemingly contrary to nature, that, taking the average, infants properly brought up by hand are better developed and enjoy more perfect health than those completely breast-fed. Of course,

there is no artificial food equal to the natural, — the sound breast milk of a robust woman, — and a child fed upon this must thrive if other circumstances are favorable. Unfortunately, the woman who has sufficient health and strength to furnish an abundant supply of good milk during ten or twelve months, until the period of weaning is reached, is unique in our day, and the great bulk of those who do nurse their children grow pale, thin, and feeble, and give milk which, though sufficient in quantity to fill the nursling's stomach and satisfy the cravings of hunger, does not contain enough nourishment to meet the demands of its system. Such mothers complain that their children are always puny, peevish, and always ailing, and wonder why their neighbor's babies, fed upon the bottle, are so round, jolly, and healthy. The explanation lies in the simple fact that good cow's milk is a better food than bad breast milk.

In deciding in individual cases whether or not a mother ought to nurse her child, many points are to be considered. There are moral, as well as physical defects, which, if existing, would weigh in favor of the bottle. If a woman is naturally fretful and irritable, and possesses an uncontrollable temper, the artificial means of feeding is the best for the child. The same may be said if these faults do not exist, but her home's surroundings are unhappy, and she is likely

to suffer from grief and despondency, has a drunken husband or some other like misfortune weighing upon her. If the mother is poor in health, both herself and her child will suffer if she attempts to nurse it. The question of inheritance must be considered. Any disease, like consumption, scrofula, etc., existing in her family, and to which she shows a tendency, should debar her from nourishing her offspring. There are yet other points which are influential, but they need not be herein dwelt upon.

If a child is to be nourished artificially, the mother should, in the beginning, realize that only by constant care can she hope to have it continue well and thrive generally. There are certain essentials, the need of which should be impressed upon the minds of all mothers. First, in the selection of the nursing-bottle good judgment is imperative. There are numberless complicated arrangements on the market, advertised as benevolent inventions, approaching as near as possible to nature's methods. Not only are these worthless, but they are perfect abominations, and occasion much sickness and many deaths among those upon whom they are used. All resemble one another more or less. The glass bottles are of varied shapes, but the internal adjustments are similar, and consist of a tubing, generally of both rubber and glass.

A lazy mother finds these nursing-bottles very convenient ; for, once filled, all that is needed is to insert the nipple in the infant's mouth, and he literally feeds himself. It is safe to say that it is just such indifferent methods and contrivances as these that swell the death rate among infants. Very naturally will be asked, Wherein lies the objection to them ? There is every objection to them, and nothing whatever can be said in their favor. If any single reason for condemning them was to be given, one important one is that they cannot be used and kept clean ; cleanliness, in fact, is absolutely impossible, no matter how careful the mother. It is needless to advance other objections ; the inventions are of an infernal character, and deserve only wholesale condemnation.

There are probably but few indeed who are not familiar with the sight of a baby dosing in its cradle with the nipple of one of these patent nursing-bottles between its lips. The mother leaves it to feed itself ; it empties the bottle before its hunger is satisfied ; it still continues to draw upon the tip, finding a melancholy satisfaction in nursing in the air in the bottle, which soon changes and becomes vitiated. Babies subjected to such neglectful treatment are almost always peevish and cry much. To stifle its frettings, after waking from short, fitful sleep, a common practice of the indifferent mother is to thrust the

nipple back again into the infant's mouth : it matters not if the milk which may have remained in the bottle has become cold, or if it has begun to sour ; it serves its purpose quite as well if the little one only stops crying. As a natural consequence, a child so abused suffers frequently from colic ; it vomits its food, has diarrhœa, sleeps but very little, becomes bloodless and wastes away, much to the surprise of its mother, who cannot imagine the cause of her child's illness ; and rarely will she believe herself at fault, and correct her methods, even when the defect is pointed out to her.

The only apparatus necessary or admissible for feeding infants is the simple bottle and tip ; no other rubber about it. It matters little the shape of the bottle ; one with a fairly long neck and flat-sided will do very well. Among poor people, one frequently sees the common whiskey flask in use as a nursing-bottle. The principal fault with this is that being of colored glass it is impossible to tell whether or not it is perfectly clean. A bottle fit for the purpose should be transparent, so that any lack of cleanliness can be detected at a glance.

There is a form of approved nursing-bottle which is oval, and the base is on one side. There are two openings, one for filling, and the other for the attachment of the nipple. The neck of the bottle is so

formed the nipple is easily drawn on and removed. In the stopper which closes the opening used in filling the bottle there is a small hole for the admission of air. To use this bottle, the mother must hold it in her hand, and she can control the flow of milk by keeping her finger over the vent-hole.



CHAPTER V.

Infant feeding. — The nursing-bottle. — Importance of cleanliness. — How to insure it. — Rubber tips. — Dangers from milk turned sour. — The powerful poisons generated in it. — Ice-cream and cheese poisoning. — One probable cause of the terrible waste of life. — Injunctions to young mothers. — Dangerous habits to avoid. — Specially prepare each feeding. — Warming the milk. — The proper temperature.

WHEN an infant is given its food, the person in charge should take it in her lap, and the little one for the time demands her entire attention. As stated in the previous chapter, any transparent bottle can be made serviceable; the one described is more convenient, but the manner of using that or any other is the all-important item. Another thing to be insisted upon is that two bottles be provided, for alternate use. When the child has been fed from one, that should be at once thoroughly washed out with boiling water, and then either put into a pan of soda and water or filled with a solution of the same, made by adding about a teaspoonful of the bi-carbonate of soda to a pint of water. In, or filled with this solution, it should be allowed to stand until next required; then it should be emptied,

and thoroughly rinsed with cold water before receiving the food. The same careful method is necessary with the tips or nipples, of which there should be two. These should be of black rubber; the white rubber contains the carbonate of lead, which is poisonous. Those of a conical shape are the best, for they are easily cleaned. After a child has been fed, the nipple must be removed from the bottle, dipped in cold water, and scrubbed with a brush. It should then be turned inside out, and again scrubbed; after which it can be kept in perfectly clean cold water until needed. If this course is taken, there will be little or no danger from the bottle and nipple at least, and unless every precaution for cleanliness is used, there is the greatest danger of both becoming sour.

It has recently been determined beyond all possibility of doubt that in milk and cream which have begun to turn sour there is generated one of the most powerful poisons known to man. There is no longer any mystery about the cases of ice-cream, cream-cake, and cheese poisoning which have terrorized communities; it was this deadly agent, developed in simple milk and its products, which wrought such mischief. In view of this fact, it is not impossible that infant after infant, in countless numbers, may have been destroyed by this poison, generated

in their nursing-bottles, because their mothers were too murderously neglectful to keep them from becoming sour. Surely there is nothing unreasonable in this assumption; and even if it cannot be sustained by indubitable proof, there is evidence enough to prove that a large proportion of deaths among artificially nourished infants is due to the wanton indifference and the unclean, vile methods of some mothers. Probably there will not be a few who will think this statement exaggerated; and yet it is not, as every physician who has practised long among certain classes can testify.

The first thing, then, to impress upon the young mother, or old, if it need be, is the importance of perfect cleanliness in the feeding-apparatus of her child; if she does not maintain that, the chances are against her raising it. She should also understand that for every feeding there should be special preparation. Many mothers, to save themselves a little trouble, will make up in the morning the baby's food for the day; of this she will "warm up" a portion of it as needed. Very likely, too, if a child's hunger is satisfied with less than a bottleful, the mother will set the bottle with the remainder on to the back of the stove, there to keep warm until the next time for feeding. Such a course as this all ought to know to be dangerous, but, unfortunately, many do not. A

mixture of infants' food in the morning is almost sure to change before night, and then be unfit for use, if not absolutely poisonous.

When the time for feeding a baby arrives, its mother should prepare the food, and not until then. After the meal, what remains in the bottle should at once be thrown away, and the bottle and nipple cleaned as advised. This suggests another fault which is not uncommon among mothers. If they are to dilute the milk or other food with water, they use hot water, as by so doing it saves the trouble of heating the mixture by other and correct means. They generally use water from the tea-kettle, and are not likely to consider how long it has been standing in it. It may be red with rust or clear; the difference to them is scarcely worth considering, and yet to the child's digestive organs it makes a deal of difference.

Another thing this class of mothers generally do: they pour hot water into the bottles and judge when the contents are of the right temperature solely by the hand test. In other words, they guess when it is about right by holding the bottle for a moment. Very likely in this way they will offer the baby the milk heated within ten or fifteen degrees of what it ought to be. If it will not feed, and the mixture appears a trifle cold, then a little more hot water;

if it seems too hot after it is refused, then a little cold water or milk. Thus they continue to guess, and probably succeed in getting it just right about once in a dozen feedings. By this convenient but questionable method of dilution the mixture is rarely of the proper strength ; there is either too much or too little water added, and the baby's digestion is imposed upon accordingly.

The temperature of infants' food should be about 95° F. ; a trifling variation either way may do no harm. But in this, as in all things else expected of mortals to do, there is but one way which can be sanctioned, and that is the right way. In every home where there is a baby there should be a thermometer ; it is needed not only when preparing the food, but also in making ready the little one's daily bath. Now, when the infant's food is to be warmed, it should not be heated by diluting with hot water. The bottle containing the mixture, properly prepared, should be placed in a pan of hot water, or first in cold water, which can be heated on the stove, over a gas-jet, or as one pleases.



CHAPTER VI.

Infant feeding. — By the bottle. — The operation described. — Hints to mothers. — Preparation of food. — The proper quantity demanded by infants. — The limit of the capacity of the stomach. — Changes which are required in the food as age advances. — Milk. — The basis of all infants' foods. — The popular delusion regarding cows' milk. — Dishonest practice of milkmen.

THE food made ready, the bottle well rinsed in cold water and filled, and the nipple adjusted, the child should be taken upon the mother's lap, and there, half reclining, be allowed to enjoy its meal. The operation will need constant watching; if the base of the bottle is held too high, the milk will flow in a stream without suction, which it ought not to do; and if held too low, the neck of the bottle not being filled, the child will draw in and swallow air—a harmful practice. An infant must not be hurriedly fed; ample time should be given it, and it will be well to withdraw the nipple and allow it to rest for a moment occasionally.

Returning again to the preparation of the food, mothers should feel the importance of being exact in their measurements. If milk, water, sugar, etc., are

used, then, when the proper quantities of each, suited to the child's digestion, have all been determined, it will not do to vary them much, especially while it is very young.

Regarding the quantity of food necessary to sustain an infant, it might not improperly be said that as long as he is fed at regular intervals, and thrives well, his appetite should be satisfied, be its cravings more or less than that of children usually. One writer says in substance: During the first four weeks, infants generally require from three-quarters of a pint to a pint of food daily; in the second and third months, about one pint and a half; and from this time to the twelfth month, from two, and two and a half, or even three pints. After the twelfth month, the quantity depends upon whether additions be made to the diet, or milk food be used exclusively.

When the daily amount reaches three pints, the limit of the capacity of the stomach is usually attained, and the greater demand for nourishment, as the growth advances month by month, must be met by adding to the strength of the food rather than by increasing its bulk. These two factors, strength and quantity, are intimately associated throughout the whole period of infancy, and in the earlier months a mere increase of the latter is not always sufficient to properly support and nourish the system.

Milk is the basis of all 'infants' foods; it therefore demands at least a passing notice. Those who attempt to bring up children in large towns or cities are beset with many difficulties, and they are made even greater for people who are obliged to nourish their little ones artificially. That there are honest milkmen no one for a moment will doubt, but that all are not honest they will as readily agree. Take, for instance, the matter of "one cow's milk." There are very few milkmen, indeed, who will not readily agree to supply those customers who desire it with milk from one cow, and yet it is safe to say that not one in twenty could do so, even if he wanted to. Very much of the milk sold in cities passes from the hands of the farmers or dairymen to the wholesalers, and from them to the milkmen or dealers. Some of the latter, it is true, are their own producers, keeping their own cows, etc.; but there are very many who are not, and of the latter class few, if any, among them have any control over their milk until it is delivered to them at the milk depots, and it is a question if there are many even who know from what farms their supply comes. .

There are hundreds of foolish people who think milk from one cow is the best for their children, and they will insist upon having it, or rather, will endeavor to obtain it. Every milkman who is unable

to serve them knows that if he is honest and tells them the truth, he will as surely lose their custom, and the chances are that some other man no more deserving, but morally more indulgent, will secure it. In such a case, and especially when those deceived have no means of detecting the fraud, a lie is easy, in fact, easier than it is to tell the truth, since they know that the customer is stupid to make such a demand, and they also know better what he ought to have than he himself does. They therefore promise to supply individual customers with milk from one cow only, but, as a rule, they still continue to give them mixed milk, as before, and of the same nature as that which they serve to all others. The parties most interested find a bare promise quite sufficient, and rest in fancied security.

Now, in the first place, the customer himself is wrong. If he were to buy a good cow, feed it properly, and keep it in uniformly good health, then the milk from it would be preferable for his infant. But all cows are not continuously healthy; they are, of course, subject to changes and ailment like all other animals, and the consequence is, the mixed milk from several good cows is better for children than that from a single cow. Again, the milk of a cow, even in good health, may be lacking in certain constituents essential to a child, while it may contain an

excess of others, and those constituents vary, also, from time to time in the same animal. There are some breeds of cows the milk of which is preferable for infant feeding to that of other breeds. The herd of the average dairyman is made up of different breeds. It will be seen, therefore, when all things are considered, that the mixed milk from several cows is likely to be more uniform than that from a single cow.



CHAPTER VII.

Infant feeding. — Adulterated foods. — Milkmen. — Their hardships. — The spirit of the time. — Fraud everywhere. — Food and drug adulterations. — Government protection denied the people. — Scoundrels who gain wealth by fraud. — Lust for gain killing thousands. — Milkmen's tricks. — Responsibility of the purchasers. — They invite adulteration. — Delusions. — Milk color. — How it is used. — For what purpose. — Its action on the system.

“AN honest man is the noblest work of God;” upon milkmen's honesty in no slight degree must depend the health of communities. If all milkmen are not honest, did it ever occur to the people, their customers, that they themselves are largely to blame? As a rule they are an overworked and underpaid class; and what other is forced to endure so many hardships for so little profit? The laborer with his pick and shovel does not work nearly as hard, nor endure the privations which these men experience, and doubtless at the end of each year they are nearly as well off in this world's goods.

When the cost of living lessens, the rate of mortality to a certain extent increases. In this age of competition, adulteration is invited; to cheapen every

article in use, either for food or other purposes, by corrupting or counterfeiting it, seems now one of the great aims of man. Fraud is apparent everywhere, and the people alone are to blame for this state of things. The children luxuriate in candies made of glucose, gelatine, pipe clay, etc.; while the parents drink the sweepings of tea warehouses, prepared with gum or rice water, and colored with Prussian blue, indigo, etc. "Fine creamery butter" is made from lard; the refuse of meat shops, no matter how badly decomposed, is now worked over into the appetizing bologna, and so it goes; indeed, this is a "progressive age," as far as adulterations at least.

As a Western writer has said: "The extent and variety of food and drug adulteration would seem incredible were it not that the facts have been officially ascertained. There is scarcely an article of food that can be bought with any assurance of purity and wholesomeness. Trade guarantees are worth nothing. If manufacturers and dealers have no more principle than to persist incessantly, under the cover of the mysteries of their business, to adulterate and poison provisions, drugs, and delicacies, there is but one redress left, and that is summarily to break up the whole business by stringent legislation. A good beginning was made against fraudulent butter in the shape of oleomargarine; let the good work go on till

the market is thoroughly purged of this class of frauds.

The protection of the life, health, property, and happiness of the people is the primary aim of government. It should stand as a wall of fire between them and all invasions from without or violence within, from open assault or covert danger. It is for this protection the people pay their taxes and give their personal valor in times of war. Where does this protective function of the government cease? Has it done all that should be expected when it hurls back the invader, subjugates treason, puts a stop to smuggling and counterfeiting, punishes murderers, burglars, and incendiaries? By no means. It should punish the adulterators of meat and drink as rigorously as robbers and murderers. They are worse than the average murderer, who kills in the heat of passion, for they kill off thousands of innocent people by the slow processes and homœopathic doses of dirt, nastiness, and poison, from the sheer lust of gain. The Borgias and others of that accursed race were actually less culpable. They killed units, while the modern vendors of deleterious compounds insidiously assail the health of a whole community, and shorten the average duration of the human life. Better a thousand times an occasional dose of poison by a Mme. Brinvilliers than vile, unwholesome admixtures in our sugar,

syrup, coffee, tea, pickles, canned fruit, lard, butter, oil, curry, and a host of other articles in every-day use.

It is not to be wondered at that milkmen keep up with the times ; that they, too, resort to many tricks and devices ; they have their share of the inventive genius which characterizes all tradesmen. Now, the purpose of the writer is not by any means to attempt to defend milkmen, but in all fairness all sides should be considered. The people are generally all drivers of bargains ; they want cheap milk, and it is safe to say that many get it. With an ordinarily large milk route, a man is not likely to get rich if he is honest ; neither is it easy for him to realize even a fair return for his labors.

If the public were willing to pay them a fair price for their milk, so they could afford to furnish the genuine rather than the spurious, it is safe to say that but few milkmen would prove dishonest. As it is now, many among them must be more or less so, or they cannot even earn a living. It will be seen that the temptation to adulterate, use annotta or "milk color," etc., is very strong, and many doubtless yield to it. Consumers in large cities are now fairly well protected by the authorities, but there is still room for improvement.

It is safe to say that there are many people living

in large towns and cities who cannot tell good milk when they see or drink it, and that the addition of some of the compounds which milkmen use, really as far as looks go, improves its appearance, and does not detract from the taste. Probably every man who has been long in the business can tell of customers who found fault with pure milk, and yet when the adulterated mixture was served them, their complaint ceased.

The so-called "milk color" is a solution of annotta. A short time ago it was easily obtained of men in Boston, who made it a part of their business to prepare it. Not only that, but they sent circulars through the State, telling the milkmen in the country of its value. The writer, possessed by a spirit of curiosity, persuaded a milkman to introduce him to one of those "milk coloring" fraternity, and he learned much about its use, price, etc. About one teaspoonful is added to an eight-quart can of water, and that quantity of solution is used to dilute from four to five cans of milk. It is a fact that after adulteration in this way the milk looked much richer, and tasted as well, if not better, than when pure. With this compound, as with others which are known to have been used to "doctor" milk, it may, perhaps, be said that, as a rule, they are not injurious. For general use this may be true, yet there are cases where they

would prove harmful ; in adult invalids confined to a milk diet, and in young children, they would be to a certain degree poisonous.



CHAPTER VIII.

Infant feeding. — The milk supply. — Fixing the standard. — Needed sanitary enactments. — Official inspection of dairy farms. — Reforms which should be instituted. — Unconsciousness of the public to its dangers. — Possible contamination. — How milk may become infected. — The ease with which disease is transmitted in milk. — Unhealthy state of many dairy farms. — How cows should be kept.

THE purity of the milk supply, Chambers says, is a matter of extreme importance, and fitly forms the subject of legislative interference, provided always that the legislative interference be judicious and does not impede improvement by competition. Of such injudicious sort would be, for example, the fixing an absolute standard of cream contents. The standard must be low, or much genuine milk would be condemned; and then when any dealer got milk richer than the standard, he would water it down to the mark, and thus the pump would be more active than ever. The purity of the milk supply is a subject of pre-eminent importance to the healthy, above all others. I always feel indignant when I see advertised special milk, in sealed cans or otherwise, for the nursery or for invalids, as if the health of the

sick and weakly were more important than that of the strong man, on whose arm those sick and weakly depend for their existence. Let us keep our strong man well, and we shall have fewer invalids to attend to. In choosing between two shops, I should much prefer the one that did not advertise a special article.

While the consumers of milk are to a certain extent protected by law, what is of equal importance is for the law-givers to go farther and enact the most rigid laws to govern the farmers and dairymen, the producers of the milk supply. The adulteration of milk with water is by no means the greatest evil from which the people should be protected. The producers should be subjected to official inspection and sanitary enactments; for, as has been said, the real poisons whose possible presence throws a dark shadow over the enjoyment of this delicious drink, are quite independent of its richness or the reverse. They are those arising from an unhealthy condition in the cow or in the human dwellers in the dairy, or from gross carelessness in keeping its produce.

Diseases are readily transmitted by milk, and certain diseases in the cow may give rise to specific maladies, such as scarlet fever, in those of the human family who consume the milk thereof. The contamination of milk is easy, and cases have been reported where inmates of farms have been affected

with typhoid fever, and the infection has been carried in the milk from them to families in distant towns. If the public could only be aroused to a consciousness of the many dangers which threaten it through its milk supply, certain it is that it would insist upon legislative interference and protection. The only possible protection lies in subjecting the milk producers to the most rigid inspection, and fixing severe penalties for omissions on their part.

Those familiar with the ways of not a few dairy-men will not need to ask what reforms should be instituted. There may be others, however, who do not know that the vilest of practices are not uncommon on some farms. What is needed is to protect the people from possible contamination from milk rendered unwholesome by the milkers' hands, by dirty water used in washing the pails and pans of the dairy, from the absorption of impurities which exist in foul air, and are present wherever there is bad drainage or other sanitary defects, and from a variety of other evils which are capable of rendering it unfit for food. In fact, to close every avenue by which the milk supply may become tainted and infected.

While some of the milk producers are simply careless, others can be found who are naturally unclean, and many there are who are well meaning, and yet so ignorant of sanitary laws, that they are

none the less dangerous. Consider for a moment the location of wells on many farms; if they are "handy" to the milk rooms, that is of first importance to the average dairyman. His manure heap may be but a few rods away, and possibly his pig pen is as near, and yet rarely will it occur to him that the water contained in a well with these immediate surroundings is unfit to use in washing his cans and the other utensils of the dairy. Who ever heard of a dairyman who refused, as is very clearly his duty, to sell milk from his cows because one of his family was ill with typhoid fever or other infectious diseases?

Visit the farms in Massachusetts, or in any other state, and there will be found, on not a few at least, that the cows are kept in old tumble-down, ill-smelling barns or sheds, reeking with filth, the accumulation of years. Not infrequently the yards connecting with them are filled with stagnant pools of liquid manure, through which the animals must wade to reach their sheds. In the cellars beneath these barns are usually quartered pigs, and none can doubt but that the air of the building is rendered still more unwholesome by such neighbors.

It is unnecessary to say that cows should not only be kept in absolutely clean sheds, but the animals themselves should be kept clean. If they are

allowed to remain dirty or to breathe impure air, they become weak, their udders are sore and somewhat inflamed, and the milk they yield is bad smelling and quickly becomes sour.



CHAPTER IX.

Infant feeding. — The milk supply. — Feeding of cows. — Improper substances used. — Acid milk. — Its effect on the system. — Too late milking a grievous custom. — An honest milkman. — Rigid enforcement of the laws demanded. — Common faults in milkmen. — Faults in consumers. — How milk should be kept. — Fresh twice daily for children. — Condensed milk. — How it can be advantageously used.

ONE need not go beyond the limits of any large city to find evidence that legislative interference is needed to protect the consumers of milk. In all will be found cows kept in ill-ventilated buildings, and deprived of exercise and pure air. It is not to be wondered at, that with such surroundings they soon become diseased. Cows so kept, even before they become diseased, are absolutely unfit for milk production.

Consider the manner of feeding; brewers' grains are not proper food for cows, no matter what may be said to the contrary, and yet, on inquiry at the breweries everywhere, it will be found that they cannot meet the demand for it. Ensilage is much used for feeding cows, and many dairymen believe it of great value as a food. Partially decayed potatoes

are also frequently given cows, more perhaps by the milk producers of cities, and especially of Boston. Now, a cow's milk is almost always acid, except when she is fed on beets and sweet grass; that is, containing much clover. The human milk is always alkaline. By many experiments on a large number of cows, it was found that potatoes and potato mash yielded the most acid milk. It has also been proved that any fermented substance, such as brewers' grain, ensilage, etc., is almost certain to produce acid milk, which, if given to a young child, is very liable to cause diarrhoea and other digestive disturbances.

For a time the milk of a cow is a normal secretion. By improper feeding, bad surroundings, and too late milking, it becomes an excretion. The last-mentioned fault is not, as a rule, appreciated by farmers. Many, if not all, milk their cows as long as they yield sufficient milk to pay them for the trouble, and that generally brings them to within a month, or possibly two weeks, of another calving. It is a grievous custom, for gradually the milk deteriorates and becomes less and less rich in nutrient qualities, is blue, and, when allowed to stand, little or no cream will be found to rise. It is needless to say that a period of several months at least, unless fed with exceeding care, should pass without milking before a cow is expected to be again in milch.

If one were to write of all the reforms which might be instituted, and are absolutely needed to protect the consumers of milk, pages might be written ere the subject was exhausted. It is all very well to say, "For children residing in cities an honest dairyman should be found, who will serve sound milk and cream from country cows." How many of the people at large recognize such a man? How can he prove his claims to that distinction? Of such extreme importance is it that the public be supplied with pure milk, free from all contamination, no man's pretensions should in the slightest degree be influential, but every man in the business, from the owner of the cows to the deliverer, should be forced by law to be honest. Possibly the laws already existing are sufficient to govern the latter, and their rigid enforcement is demanded. But the former should be subject to official inspection by men perfectly familiar with sanitation, and in them should be invested the power to prohibit the sale of milk by any dairyman who does not furnish that which is absolutely beyond suspicion.

There are certain faults which some of the deliverers or milkmen have which cannot be overlooked. As has been previously said, to the large cities of America the greater part of the supply of milk for the day is brought in cars from the neighboring

country towns. From the railway stations or from the milk depot it is taken by the milkmen, who convey it to their homes or stables, and there it is kept, as a rule, for twenty-four hours. The small dealers, the keepers of little shops, very generally live in the rear of the room where their wares are offered for sale. The milk supply is thus exposed to contamination from the bad air common to such dwellings, and not infrequently also to infection from sick children and adults.

Very many milkmen store their milk supply in ill-ventilated boxes, and often in pits beneath their stable floors, from which it is impossible to shut out the emanations from the manure and other filth. It should be remembered that milk is a fluid which very readily absorbs impurities, and especially disease germs. Considering this fact, even the most unintelligent can understand that the milk supply should not be taken to a stable or other building with such vile surroundings. Yet if the stables of all the milkmen in cities were visited, in many would be found the milk exposed for a longer or shorter time in the so-called "coolers," before the smaller or delivery cans are filled. If there is not a law to cover such abuses as these, surely the people should see to it that their representatives enact one.

Consumers of milk are too often indifferent in

their ways of keeping milk after it reaches them. When delivered in cans, it is a common custom of many people to draw from the same as they need it, and possibly a can may not be emptied until a fresh supply is received. As soon as the milk is brought, it should be poured into a glass or earthenware pitcher, and when this is emptied, it should be made absolutely clean, and then well aired. Those who have young children dependent upon milk food ought to receive a fresh supply of milk both morning and night, otherwise in the warm months it is extremely liable to become unwholesome. With but few in cities is this possible, and, therefore, in summer it will be well to scald the supply when received, to prevent its becoming sour.

There seems to be a difference of opinion regarding the value of condensed milk for infant feeding. One writer says: It is frequently recommended by physicians, and largely used by the laity, on their own authority, in bottle feeding. It keeps better than cow's milk, and is supposed to be more easily digested by young infants. The latter supposition is a mistaken one, and arises from the overlooked fact that condensed milk is always given dissolved in a large proportion of water, while cow's milk is too frequently used insufficiently diluted, or otherwise improperly prepared. Condensed milk contains

a large proportion of sugar, forms fat quickly, and thus makes large babies ; the sugar also counteracts a tendency to constipation, often a troublesome complication of hand feeding. It is equally true, that as a food, it does not contain nourishment enough to supply the wants of a growing baby. Those who are fed upon it, though fat, are pale, dull, and flabby ; although large, are far from strong ; have little power to resist disease ; cut their teeth late, and are very likely to drift into rickets before the end of the first year.

While condensed milk should not be given continuously to an infant, it may be properly used as an occasional change, provided, of course, a good article can be obtained. One great trouble is that, owing to its extensive use, there is much poorly prepared condensed milk on the market.



CHAPTER X.

Infant feeding. — Milk the basis of all foods. — Goat's milk. — How to prepare the infant's food. — The quantity of water. — Cream. — Exigencies. — Responsibility of mothers. — When to change the baby's diet. — Patented foods for infants. — Very little difference between them. — Dangers of indiscriminate use. — No food equal the mother's milk. — Precautionary hints.

DURING infancy, milk is the chief article of food to be given. If a child is to be nourished artificially, then cow's or goat's milk must be used, and made to resemble human milk as nearly as possible in composition and properties. An important advantage in the city, as one writer says, in the use of goat's milk is, that the animal can be kept at very little expense, so that even poor families who are not able to purchase and feed a cow can generally possess a goat, from which fresh milk can be obtained at any time. Preference is to be given to goat's milk, when fresh, over cow's milk brought from the country, perhaps watered on the way, several hours old when received, and in commencing fermentation. But cow's milk of good quality and free from fermentive changes is probably not

inferior to goat's milk as a food for infants, and from its abundance it must continue to be in common use for this purpose.

How may cow's milk be made to resemble human milk? Taking the average cow's milk, it is necessary to dilute with water, and add sugar and fat. The sugar of milk is preferred, although pure white loaf sugar may be used: the former is on sale by all druggists. Fat in the form of cream is the best to be added. Very many people are quite successful in using milk simply diluted and slightly sweetened, and on that their infants seem to thrive generally.

During the first week of life, if a child is to be nourished on cow's milk, it should be diluted with three parts of water. After a few weeks one-half water may be added, and then gradually the quantity may be lessened until pure milk is allowed. If cream is used, the quantity needed must be determined by the quality of the milk. Ordinarily, in the first two months of life, no more than two teaspoonfuls should be added to each nursing. From that time forth the quantity may be increased to a tablespoonful, or even much more may be demanded.

Beyond this no general rule can be laid down for the government of all mothers. It will be understood that each individual case must be studied. No two children are alike; the digestion of one may be

strong, while that of another is weak, and the diet suited for the former could not be borne by the latter.

The exigencies which may occur and render changes in the food of an infant necessary are very many, nor can they be anticipated. No mother, be she young or old, should undertake to bring up a child artificially until she has first consulted a physician, and it ought not to be necessary to say that she should pursue the course which he directs. It is true that some might do well were they to be guided by their own judgment; very many others, however, would fail, and none should assume so great a responsibility.

When a physician is consulted, the mother should insist that he write out the precise directions, for her to follow in the preparation of her baby's food. She should also be made familiar with those symptoms which indicate when a change in diet is demanded. If this advice is followed, the advantages both to the mother and infant will be many. The little one's chances of living and thriving well will be increased many fold, while not the least which the mother gains is security against those delusions which entangle so many.

One of the pitfalls open to all mothers is the temptation to experiment with the numerous infants' foods

for sale in shops. As every vender of a remedy would have the public believe that in his compound was embodied curative properties infallible in every affection man is heir to, be it toothache or typhoid fever, so, too, would the inventors of infants' foods have the parents believe that only by feeding their benevolent preparations is it possible to nourish children properly, and carry them safely to the period of weaning.

Here it is well to say that many of the foods for sale under different names are simply one and the same thing. They are Liebig's food, and manufacturers have taken the liberty of substituting their names, and have stolen the thunder of Baron Liebig. Many of the patented foods are worthless, some are hurtful, and there are but a few which can be considered of value. The public is told that the inventors of these foods have at last succeeded in discovering a perfect substitute for human milk. The statement is untrue; those who have succeeded the best have yet failed in their purpose.

No man, however capable or however ambitious to acquire riches or reputation, has succeeded in making food out of starchy materials analogous to the mother's milk. Some have, by painstaking methods, prepared foods which a weak or young stomach can easily digest, and many children do very well on them when combined with cow's milk; still there is

a wide difference between them and natural infant food.

A mother should never trifle with prepared foods, and experiment upon her little ones, for there is a grave danger in so doing. If it does not thrive well on cow's milk, or symptoms appear which in her opinion indicate that a change in diet is demanded, then she should consult a physician; he will know what foods can be relied upon, and select the best one suited to her baby.



CHAPTER XI.

Infant feeding.—Policy of the writer.—To do good without doing harm.—Mothers generally over-confident.—Many assume by far too great responsibility.—How disease frequently manifests itself.—Symptoms of brain disease.—Diphtheria.—Infant life ever in danger.—Send for a physician when disease threatens.—The awful consequences of experimental treatment and delay.—The terrible mortality, and who is to blame for it.

THUS far in the treatment of the subject of feeding the discussion has been confined almost entirely to milk. The reason for this limitation is obvious ; milk should be the chief article of food during infancy, and cases where important changes in the diet are demanded, in the first twelve months of life at least, are exceptional. It is to be hoped that the policy of the writer has ere this been recognized. His earnest desire is to assist the readers in caring for their little ones, and he feels that in no way can he make this more clearly evident than by carefully avoiding the discussion of all measures of treatment, the proper application of which demands the skill of a professional. In a word, he desires to do good without doing harm, and he would fail were he to en-

courage in the laity a reliance on self when life is threatened by injury or disease; it would be like putting into the hand of those whom he would serve instruments with which they might sorely wound themselves. In infancy, it may with propriety be said that life is ever in danger. As has been shown by the records of the board of health of Boston, of all the deaths which have occurred here for fifteen years, more than one-third were children under five years of age.

As a rule, mothers do not appreciate the responsibility which rests upon them. With a little experience there seems a natural tendency for many, at least, to acquire a confidence in their own judgment and skill in the treatment of childish disorders. While they confine their efforts to the correction with their domestic remedies of slight deviations from health and simple derangements, none will say that they do wrong. But in sickness, it is not always easy for the non-professional to recognize when the danger-line is reached. Many grave diseases come on insidiously, and for a time exhibit symptoms so trifling that only those thoroughly educated in the science of medicine can read arightly their significance. True alike in children and in adults, especially is this true in the earliest years of life.

Consider this case: a child grows exacting, is more

difficult to amuse, and oftener appeals to his mother for sympathy in his little vexations and disappointments. This is about all the change which she observes, and surely it is nothing to excite her apprehension. If she is a cautious mother and calls a physician, he, by close questioning, will develop the fact, to which she had attached little or no importance, that her little one has recently vomited occasionally, and is more or less constipated. Here are symptoms which might be deemed trifling. Simple nervous irritability appears with almost every childish derangement; vomiting is also easy in children, and may be excited by even slight errors in diet, and as for constipation, an excess of milk and an infinite variety of other influences will cause it; therefore no mother would consider her child ill when no other evidence existed. Considered alone, these symptoms which have been described are trifling, but appearing together, they point to the brain as the seat of the disease, and are early signs of that incurable disease, tubercular meningitis.

Assume another case: a child on waking in the morning appears somewhat dull and listless, and indifferent about getting up as usual. If allowed to remain in bed or its crib, after a time it manifests a desire to leave it and be dressed. If old enough to do so, it walks about, very likely attempts to play,

but soon seeks its mother's arms or climbs on to the sofa and there dozes much of the day. Occasionally it brightens up and appears quite natural, but soon grows indifferent as to what is going on about it. Food it does not care for; but if urged to do so, probably will take a little milk, but would prefer water. There may be some, but not very high fever.

But few mothers would be disturbed by these symptoms, and many would conclude that a child presenting them had "eaten something that had hurt it," and induced a slight bilious attack, and a dose of castor oil was all that was needed to remove the trouble. A bilious attack would certainly give rise to the symptoms described, and yet, were an intelligent physician called, he would at once carefully examine the throat; for in the same way, in a large proportion of cases, diphtheria makes its appearance.

Now in the management of children even in health, mothers should appreciate the dangers which threaten all in early life. They ought to understand that only by the best of care can they keep their little ones well, and that when they are ill the chances of recovery depend much upon the promptitude with which the proper treatment is applied. If her child is ailing, and the mother attempts to treat it with domestic remedies, or with drugs obtained from some obliging apothecary, she assumes a grave responsibility, the

weight of which but few can realize. If, on the other hand, she calls a physician, upon him falls the responsibility, and then if the little patient dies, she is without blame.

No more sound and wholesome advice can the writer offer than for all who have the care of children to send for a physician when disease threatens them. Those who take this course may often seek medical assistance when their domestic remedies would have been all-sufficient, and yet delay is liable to be fatal, and who, without that discernment which is the product of deep and patient study of health and disease, can foretell the coming of that time of dire necessity? who can tell when it has come? How many mothers there are to-day who, as they turn the pages of memory and see pictured there the faces of their little ones, taken from them by the hand of death, in anguish cry, "It might have been."

Let it be remembered that very nearly one-sixth of all the children born here in America die in the first year of life. This fact is emphasized, not to terrorize mothers, but to stimulate those who are faulty in their management to greater watchfulness and unremitting care. It is scarcely possible that all realize how slender is the thread which binds infants to life, how easily it is broken by neglect, and yet the chances of living ought to be greater in infancy and

childhood than in any other period of life. Who is to blame for this terrible mortality? Not a few mothers must be held responsible for it.



CHAPTER XII.

Infant feeding. — Additions to milk sometimes needed. — Indigestion. — Patented foods. — Objections to their use. — When a child does not thrive well on milk. — Death the frequent consequence of experiment on infants. — A golden rule for mothers. — Arrowroot, oatmeal, etc. — When they can be used. — How to prepare them. — Barley. — Gruels which are allowable if intelligently used.

RETURNING once more to the subject of feeding, as has been stated, those who are forced to nourish their infants artificially will find cow's milk the best suited to the wants of their little ones. That the milk must be above suspicion of adulteration or contamination has also been insisted upon. This, then, should be the chief food, at least throughout the first twelve months of life. It is to be understood that while this substitute for the mother's milk is suited to and will properly nourish many to whom it is given, for some infants it will be necessary to make other additions than simply water, sugar, and cream, which are commonly used to render cow's milk analogous to human milk. Lime-water is often needed to prevent, as the mothers term it, "milk curdling on the stomach." It is safe to say that the

milk supply of all cities is much too acid, and, as a rule, it would be well to add to each nursing one or two teaspoonfuls of lime-water.

Cow's milk properly diluted and sweetened, in certain conditions of the digestive organs, in occasional cases, is not well borne, and must be predigested by medicinal agents. Milk alone, or with lime-water, or predigested, may be found unsuited in a very few cases; it is then that the prepared and patented foods, of which there are many on the market, are usually employed to meet the demands of the system. A discussion of these foods will not be attempted, for no mother should ever think of using one of them until advised to do so by her physician. The reason for this is obvious: out of all the infant foods which are advertised many are worthless in any case; the very best are not suited to all children.

One infant will do well on a certain kind of food and poorly on another. If a child does not thrive as it ought, then to discover what nutrient elements are demanded by its system is the very first step. Only a physician can determine what is wanting, and even the most intelligent will sometimes fail to do so at first. Once the nature of the want is learned, then to select the proper kind of food to meet it requires equal skill and a perfect knowledge of the various foods, the reliability of their manufacturers, etc.

Thus it will be seen that in the important matter of making a radical change in her infant's food, a mother must depend solely upon her physician, and nothing can justify her in experimenting on her own responsibility. Some have experimented and been fortunate in their selection ; many others have failed, as the high death rate among infants gives ample testimony.

If the need of professional advice exists when a child does not appear to thrive as it ought, when really ill, — that is, with symptoms indicating that cow's milk is burdensome to the digestive organs, — then changing the diet is fraught with even greater responsibility. An infant, for instance, has diarrhœa. and a persistence of this symptom indicates that a different food, or the addition of some substance to the milk, is demanded. Now, some of the advertised foods are markedly laxative in their action, and are suited to children suffering from constipation. If one such were given to a child with diarrhœa, the trouble would, of course, be made worse, while if a proper selection were made, it would be overcome. If a mother makes the change unadvised, she simply guesses what her child needs ; she may guess arightly, and she may make a grievous mistake : in the event of the latter, her little one will pay the penalty.

In the management of her children, let the mother study how to keep them well, and not how to treat them when they become ill. If she will do this faithfully, the dangers which threaten infant life will be infinitely lessened, and for the new-born the chances of living will be equal, if not greater, than at any other period of life. After an infant has passed the second or third month it is not uncommon to find mothers substituting for milk some of the farinaceous substances rich in starch, of which arrowroot and oatmeal are the favorites. They assume that the child needs "more substantial food," and think that by the use of the substances mentioned the diet is rendered more nutritious. This is a grievous error; for a child of the age mentioned is capable of digesting only a very small quantity of starch, and when introduced into its stomach it induces an irritation of the mucous membrane, one of the prominent symptoms of which is diarrhœa.

It is generally accepted that previous to the fourth month farinaceous food should never be given. After that period of life is reached, if there is any reason why milk alone is not sufficient for a child, an occasional feeding of barley water or oatmeal gruel may safely be allowed. The former is the most nutritious, while the latter is very useful when there is constipation. A teaspoonful of either may be boiled

in a cupful of water, with a little sugar, for fifteen minutes; less water will be needed as the child grows older. After straining through a linen cloth, the liquid obtained may be added to an equal quantity or less, according to the age of the child, of cow's milk boiled, skimmed, and slightly sweetened. The decoction made from barley or oatmeal is, therefore, to be used in very young children never alone, but as an addition to milk, to dilute the same, as it were. As the child grows older the gruel may be thicker, and less of it be given in proportion to the milk.

The "prepared" barley is often used, but in this age of adulteration it will be well for mothers to purchase barley and grind it in a coffee-grinder. They should remember also that when either of these gruels is given, they should be made fresh for every meal. While barley and oatmeal are both nutritious, to a certain extent at least they favor the digestion of milk, and where a child is inclined to vomit the latter when taken diluted simply with pure water, the thin gruel prevents its curdling on the stomach in hard masses.



CHAPTER XIII.

Infant feeding. — The nutritious and digestible gruels. — Wheat flour. — How to prepare it. — The flour-ball. — Barley jelly. — Gelatine. — The limits of mothers. — That class which will disagree with the writer. — Some of the consequences of their methods. — Make no change in the diet while the child is doing well. — Good judgment imperative. — Rules to be observed. — Changes after the first year.

IF artificially nourished infants after the fourth month do not appear to thrive well on cow's milk alone, properly diluted and sweetened, then barley, oatmeal, or wheat may be used, not alone, however, but as additions to the milk. To barley is given the preference, for it is more nutritious and digestible than either of the others mentioned. How that and oatmeal is to be used has already been described. To prepare wheat for infants' feeding it must be thoroughly cooked in the following manner: if possible, unbolted wheat should be obtained; if it cannot be, the common flour will do fairly well. A pound of wheat flour should be put into a bag made of thin cloth or muslin, and tied up tightly. This should then be boiled constantly in a saucepan for at least twelve hours. When cold, and the cloth is

removed, this "flour-ball" will be found doughy on the outside, but the inner portion will be baked hard. The soft outer covering should be cut away as worthless, for the thoroughly cooked part or kernel only is fit for use. When needed, a portion can be grated off, and the yellowish white powder obtained added to the milk.

Mothers will do well to wait until their infants are seven or eight months old at least before giving them this cooked wheat, and then, as one authority directs, two meals of flour-ball daily — say the second and fourth — are all that can be digested. To prepare these, rub one teaspoonful of the powder with a tablespoonful of milk into a smooth paste; then add a second tablespoonful of milk, constantly rubbing until a cream-like mixture is obtained; this is poured into eight ounces (half a pint) of hot milk, stirring well, and is then ready for use. If one or two meals of the flour-ball are given daily, the others should be of milk, prepared as has been the custom of the mother.

Eustace Smith highly recommends for feeding infants what he terms "barley jelly." In making this, put two tablespoonfuls of washed pearl barley into a pint and a half of water, and slowly boil down to one pint. This should then be strained, and, when allowed to stand, sets into a jelly. For one

feeding, dissolve two tablespoonfuls of this jelly in half a pint of milk, warmed and sweetened. It should not be allowed oftener than twice a day.

Many physicians find gelatine serviceable in infant feeding. Starr prepares it in the following manner: Put a piece of plate gelatine, an inch square, into half a tumblerful of cold water, and let it stand for three hours; then turn the whole into a teacup; place this in a saucepan half-full of water, and boil until the gelatine is dissolved. When cold, this forms a jelly; from one to two teaspoonfuls may be added to each bottle of milk, prepared for nursing.

With somewhat wearisome detail, the only diet which a mother, on her own responsibility, is justified in giving her infant during the first year of life, has been described. The assertion is ventured that there are many mothers who will not hesitate to say that a baby would starve on such a simple diet as he advises. Mothers of this class believe in feeding their infants at the table as soon as they can sit in a high chair, and these same mothers can recognize a case of convulsions when they see it, for such attacks are common in their children. When the doctor is called in such cases and endeavors to learn what food has been given to the baby, scarcely a year old, to cause the fit, such a mother, "for the life of her, cannot tell, for, at dinner, he had only a few baked beans;" or, possibly, "a bit of cabbage."

Let those mothers who are forced to nourish their infants artificially begin with cow's milk, and dilute it at first with three parts water. Unless a physician directs a change, none should be made in the diet of the child, at least not until after the fourth month, excepting it be to lessen the quantity of water. If the little one is well and thrives generally, then the diet of milk should be persisted in.

If it appears that the diet is not well borne, if constipation exists, or if the child needs more nutritious food, then barley, oatmeal, gelatine, or wheat may be employed. Good judgment is imperative in using these substances, simple as they appear to be, for the digestive organs of an infant are exceedingly delicate and easily disordered. When first given they must be made into very thin decoctions, and the child accustomed to them gradually. In the beginning it will be well to add whichever is selected to one nursing on alternate days; then give once a day, and finally twice, say with the second and fourth nursings. In the meantime, it will be easy for the mother to determine if the slightly changed diet is suited to her child, and if it is not, then, of course, the substance used is, for a time at least, forbidden.

By the judicious use of these simple substances, which a mother is justified in using if she thinks her infant needs them in addition to milk, she can, in

nearly all cases, sustain the little one well during the first year of life at least. For the sake of emphasis, it is repeated that no radical change in the diet should be made unless ordered by a physician. During the first year of an infant's life, artificially nourished, as a rule all its food should be administered in a bottle; at least it should be thin enough to be given in that way.

In the beginning of the second year the child should be fed occasionally with a spoon, and a few changes in the diet are warranted. Assuming that when this period is reached that it is taking milk, to which, possibly, cream is added, also flour-ball, barley jelly, or oatmeal, once a day may be allowed for a meal the yolk of an egg, lightly boiled, with stale bread crumbled into it; the egg must be soft enough to soak the crumbs. Stale bread or soda crackers may also be crumbled into the milk; these, in all cases, must be allowed to soak until they have become soft.

At this point, it is well to say that a child should not be permitted to sit at the table with its parents until after three years old. As they well know, a very young child wants about everything it sees, and especially is this true of articles of food. To satisfy it, well-meaning mothers easily fall into the grievous habit of giving them a wee bit from this and from

that dish, not only doing them very great injury, but also making them wilful and far more troublesome. Than this, there is no custom more fatal to good discipline, without which a mother can never properly rear her child.



CHAPTER XIV.

Infant feeding.—In the second year.—The number of meals daily.—The proper hours.—Animal foods.—When broths may be allowed.—How prepared.—Vegetable foods.—Digestible meats.—Precautions to be observed.—Diet after the eighth month.—Progressive changes.—When a full diet may be allowed.—Important lessons which children must be taught.—The child at the table.—Its diet then.

DURING the earlier part of the second year children often demand a varied diet; milk, however, should still be the principal food, and as long as that, with the addition of barley, oatmeal, or wheat, suffices, and the child appears to thrive well, no change should be made simply because it has reached a certain age. It is advised that five meals be given each day,—the first at 7 A.M., the second at 10 A.M., the third at 2 P.M., the fourth at 6 P.M., the fifth at 10 P.M.

During the second year, beef tea, mutton, chicken, or veal broths may be allowed. These must be given very thin at first, and great caution in their use is imperative. Beef tea is slightly laxative; the same may be said of the broths, which are less so, however, than the first mentioned. If, therefore, diarrhœa

exists in a child, they should be forbidden. When there is no objection to their use, one of them only should be given occasionally at first, and its effect upon digestion carefully watched. In making them, they need to be only about half the strength which would be proper for adults. They should be thickened with stale bread crumbs, and very little rice may be safely added occasionally.

For the last half of the second year, beef tea, or one of the broths, once a day is all that should be allowed. During this period, a thin slice of bread, lightly buttered, will be a grateful addition to the diet, and it is usually well borne by a healthy child; new bread is, of course, forbidden, as indigestible. Many mothers are accustomed to give their children mashed boiled potatoes in the first year of life; diarrhœa is often the consequence. Until beef tea is allowed, this vegetable food may properly be withheld.

While five meals a day are advised for a child until it reaches the eighteenth month, four are quite sufficient for many children as that period approaches. They should not be disturbed late at night to be fed, but if awake when the parents are retiring, a cup of warm milk may be given, and nothing more will be needed.

Rare roast beef, steak, and other kinds of meat are often given children by their mothers early in

the second year, a common custom being to cut the same into long, narrow pieces, from which they are allowed to suck the juice. There is nothing particularly objectionable in this; still, it ought not to be indulged in too early. As a rule, after a child is eighteen months old will be time enough to give it meat in this form. After that age is reached, any easily digestible meats, such as beef or mutton, rare done, scraped out very fine and crushed into a paste, may be allowed, with bread and butter or mashed potato. There may be given, also, milk toast, well-cooked rice, oatmeal, and even cornmeal and milk. It is always well to accustom a child to take oatmeal every morning with its breakfast.

From the eighteenth month, for the next year, children need four meals each day. During that period a greater variety of food may be allowed, but all substances which are not easy of digestion must be religiously excluded from the diet. Until a child is two and a half years old, all meat which is allowed it should be crushed into a paste. After that age, and until it is three and a half years old, at least, roast turkey and chicken may be given it, but with them, as with beef and mutton, they must be minced fine, for digestive disturbances are liable to be excited if this is neglected.

In the third year a child may be permitted to

take its meals at the table with the family. Parents should understand, however, that even then he has not reached an age when a full diet can safely be allowed. First of all, he must be taught to eat slowly, and parents certainly ought to set the example. The habit of "bolting" food, so common to many, both children and adults, is an extremely pernicious one, for which there is no excuse.

Even before this period, sound fruits may be allowed children, provided, of course, those easy of digestion are selected, and care is taken to remove the seeds, skins, etc. It will be well to encourage them, when they join the family at the table, to eat a small quantity of fruit for breakfast, and before other foods are served. For this meal, children may be allowed milk, oatmeal, bread and butter, and eggs, either lightly boiled, poached, or scrambled. If, instead of eggs, they prefer fresh fish or steak, either one or the other may be given; the meat, of course, must be minced fine. Fried foods are forbidden, and this includes fritters and fried cakes.

At dinner, if the soup is thin, it may be allowed, but that kind of soup so often in the home of the laborer, and which is made from bones, and thickened with vegetables, and strongly flavored with onions, is entirely unsuited to a child's digestion, and should never be given it. Roast or boiled meats, such as

beef or mutton, may be allowed ; the fact that pork and all salted and otherwise cured meats are difficult of digestion should be remembered, and their indulgence forbidden.

Potatoes, baked or boiled dry and mashed, spinach and peas, string beans, asparagus of good quality, cauliflower, and beets when young, are no burden to a child's digestion, and should be allowed ; with green corn it is different, unless that which is very tender is used, and the kernels are carefully crushed or grated. Such vegetables as turnips, cabbage, carrots, parsnips, and onions, require strong powers to digest them. The same may be said of celery, unless it is stewed.

Sweet potato is much less easily digested than the round or, as commonly called, the Irish potato ; it also quickly undergoes a sort of sugary decay. While the vegetables which have been recommended as a part of children's dietary are usually well borne by them, it must not be assumed that they can safely eat them all at one meal ; only two of them should be partaken of each day. Among those dishes which must be forbidden children are lobsters, crabs, liver, sausages, chicken and other salads. Pies and pastry, plum and suet puddings, are also unfit for them ; rice and milk, corn starch, or some other equally light pudding, is all that may be allowed for dessert.

For supper, milk toast, bread and butter, and a glass of milk, with possibly a little stewed fruit, will be quite sufficient for young children. Hot bread, cheese, and hashed meat and vegetables, so often the supper of the hearty workman, is altogether too indigestible for young children. In fact, it should be the duty of the mother to learn what foods are easily digestible, and none others should be allowed. Her own powers of digestion, or those of the father, cannot by any means be considered a safe guide in the selection of food for her little one.



CHAPTER XV.

Children's diet. — In the third year. — Hints and necessary precautions. — Digestibility of various fruits. — Warning against sweetmeats. — The dangers from their use. — The conduct of some parents sinful in the extreme. — Tea, coffee, and chocolate. — Children should never be allowed them. — The atrocious practice of encouraging the use of stimulants. — The brain in childhood. — Tendency to disease then exists. — Hints to be remembered.

WHEN a child approaches the third year of life, it may be allowed fresh fruits, provided, of course, those easy of digestion are selected, and care is taken to remove the seeds, skins, etc. This is but a repetition of the advice given already. There are yet a few points to be considered in its connections. First, it must be understood that the quantity of any fruit allowed a child of the age mentioned must be moderate. Intemperate indulgence in even the most digestible fruits is usually followed by unpleasant consequences. As a rule, those which are very acid and require much sugar to make them palatable are to be withheld. Oranges, apples, and peaches, if perfectly ripe and mellow, may be occasionally allowed with safety, unless, of course, there is an irritability

of the stomach and bowels. Pears are less digestible, but if thoroughly ripe, can do no harm, unless freely indulged; then diarrhœa is a common consequence.

Of all berries which contain small, hard, and insoluble seeds, strawberries are the least burdensome to the digestive organs; still, they, like blackberries, currants, etc., are particularly apt, when taken immoderately, to excite intestinal derangement. Native grapes, having a firm skin and large seeds, are absolutely unfit for children unless the skin and seeds are removed: the pulp is very easily digested.

Cherries should be forbidden, for, even when the stones are rejected, they are quite sure to work mischief. Probably that old delusion still exists, that if one eats cherries and swallows the stones, no harm can follow. A more stupid notion cannot be conceived of, and, in not a few instances, has death resulted from the irritation of cherry-stones lodged in the bowels.

The banana is a fruit of which children are particularly fond. It is somewhat difficult of digestion, and must be given guardedly. Cantaloupes are well borne; stewed and roast fruits, provided they are not very acid, are well suited to the digestive powers of children, and have a beneficial effect by their tendency to excite the action of the bowels.

A word of warning against indulgence in the use

of sweetmeats, which is a potent cause of disease and mortality during childhood. Even where pure they are exceedingly indigestible, and tend to disorder the stomach and associate organs, and when adulterated, their effect is still more pernicious. It should be remembered that poisonous pigments are sometimes used in the manufacture of candies. Dried candied fruits, such as raisins, etc., are also exceedingly harmful.

The conduct of parents in relation to this subject is often, as Eberle sagely remarks, extremely irrational and pernicious in its consequences. They would not themselves venture on the frequent and free use of confectioneries, and yet will indulge their children, with scarcely any restraint, in the use of these pernicious luxuries. The sicklier and weaker the child is, the more apt, in general, is it to be allowed these destructive gratifications. The pale, feeble, and sickly child, whose stomach is hardly able to digest the most simple and appropriate aliment, is sought to be delighted and appeased by the luscious and scarcely digestible articles of the confectioner. Indigestion, intestinal irritation, terminating often in ulceration and incurable diarrhoea, are the frequent consequences of such conduct, and at best, such indulgences must inevitably prolong the feeble and sickly condition of the child, and not infrequently eventuate in permanent constitutional infirmity.

Tea, coffee, cocoa, and chocolate should never be allowed children, and the same is true of all stimulants whatsoever. In some families given to indulgences in beer at the table, not infrequently the parents will encourage their children in drinking the same even before they have reached the third year of life. This is a most atrocious thing for them to do. Not only do they lay the formation of a habit which may in after life prove a bitter curse to the child, but the baneful effect is often immediate.

While the brain is developing it is exceedingly sensitive and easily deranged. Children are also extremely liable to inflammatory affections, sudden in their attack, rapid in progress, and too often fatal in their termination. Any unusual influence upon circulation may disarrange that delicate adjustment of vital processes, and disease quickly follows in consequence. All, of course, have recognized the extreme excitability of children from the excess of vitality. If the nervous system becomes deranged by any powerfully acting cause, the trouble does not stop there, but so strong is the sympathy which exists between all the important organs of a child, mere nervous excitement may induce organic disorder or disease.

The practical deduction from this is to protect a child from all influences which may be in the slight-

est degree harmful. An indiscretion in feeding may be followed by convulsions or other serious consequences. Stimulants quicken circulation, which in children is exceedingly active and vigorous. They have a direct tendency to increase the flow of blood to the brain, and consequently increase the liability to disease of that vital organ. Therefore, pure water constitutes the best drink for children, and, it is not too much to say, for adults also. The former should be encouraged to drink water freely, and the demand for it exists even in very early life and increases with the age. The youngest infant requires it. Very cold ice-water is unfit for children; but in very warm weather the water may be moderately cooled by bits of ice.



CHAPTER XVI.

Bathing of infants. — Cleanliness an important requisite. — Consequence of neglect. — Healthful impressions from early practices. — The virtues of the different baths discussed. — The writer digresses. — A tribute to intelligent mothers. — Thermometers. — Actually necessary in the nursery. — The temperature of the infant's bath. — When cold sponging is permissible. — Warm baths must be quickly administered. — When to bathe. — The preparations.

WITH the child's début at the table, to share henceforth the food of its parents, the subject of diet may now be dismissed, with the ardent hope that among the readers some mothers at least have found this rambling discussion a source of instruction, and the writer has been permitted to aid them in the feeding of their little ones.

Returning again to early infant life, there are a few points on bathing which may properly engage attention. At no period is cleanliness of the skin a more important requisite than in infancy. If frequent bathing is not practised, then not only is the general health impaired, but there is an especial tendency in a neglected child to suffer from indigestion, or other stomach and intestinal disorders.

There is also an influence more remote, yet no less important, which must be considered.

Children, says an old writer, who are early accustomed to the comfortable and healthful impressions of washing and bathing, will rarely, in after life, neglect the observance of personal cleanliness ; and those, on the contrary, who are neglected in this respect during childhood, will seldom manifest a proper regard for this physical virtue, in the subsequent stages of their lives.

The subject of bathing may seem to many mothers one too trifling for discussion, as doubtless all feel themselves eminently capable of properly performing this simple nursery rite. Still there are practices among some of them which may be deemed objectionable ; and, again, even physicians differ much on certain important points connected with infant bathing. For instance, one believes that a baby should be bathed twice a day ; another deems once daily quite sufficient, and emphasizes the pernicious results which will surely follow if the advice of the first is followed. Again, some physicians recommend warm baths for children, while others consider the custom of giving them to be highly reprehensible. The latter are, therefore, enthusiastic advocates of cold baths. They believe that the exhilarating and bracing effect produced by

them is as beneficial, if not more so, for the infant as it is for the adult.

Considering the difference of opinion among professionals, it is not reasonable to suppose that all mothers have agreed upon what is right and proper. For this reason it is assumed that a brief discussion of the subject may not be without interest.

At this point it is well to state that there are doubtless many mothers who have followed the writer in his rambles over the subject of infant feeding, who have learned nothing new. Very likely these mothers are unusually intelligent, have been properly instructed as to the care of children by their family physician, and have wisely sought and been guided entirely by his advice on all matters pertaining to the nursery regimen. Not only are these mothers to be complimented for the sterling sense which they have displayed, but also are the physicians consulted to be congratulated on having such patients and apt pupils. For such, it is true, there is little to learn, and for what remains they should seek their medical attendant; he is the proper one to instruct them.

All mothers are not as fortunate as those referred to. Some are not surrounded with every luxury, and very many, indeed, are unable, for the want of means, to seek professional advice to dispel every

doubt or correct every trifling derangement. In fact, they who are so blessed by fortune are few in number when compared to the many who are forced to practise self-denial in all things, and who know that even one visit of a physician means for them more rigid economy, for a time at least, in their usual expenditures. It is this class of mothers the writer would assist; and if by his writings he has been influential in preventing a fatal illness in even one little child, who can say that he has labored in vain? As Dr. Sophia Jex-Blake remarks: "No detail can be too homely, no caution too minute, if by such means a single infant life may be spared, or a single mother relieved from cruel and embarrassing anxiety."

It would be a good plan for all mothers of very young children to provide themselves with thermometers. They are inexpensive, and are actually needed in the nursery, not only in preparing the infant's food, but the bath, also. In regulating the temperature of either, the hand test is not to be trusted. During the first year of life the bath of infants should be at 95°. After that period is reached, it may be gradually lowered four or five degrees, but it should not go below 90° until after the child is three years old, at least, and some writers advise that the water still be heated to that degree until the tenth year.

This rule, it is to be remembered, is for a full bath. Some advocate sponging with colder water, but it should be forbidden until after the teething period, and even then the temperature of the water ought not to be but a trifle below 90°, and the sponging should be done quickly, and be followed by brisk rubbing and exercise, to produce reaction. Even in the warm bath, a child should not be allowed to remain indefinitely, and kick and splash as so many mothers delight to see their children do. In from three to five minutes at the longest, they should be removed.

The proper time for bathing children is in the morning and midway between two meals. Some mothers freely nourish their little ones at the breast, or from a bottle, and then at once put them into the bath. This is an unpardonable custom. Before bathing, the room should be made comfortably warm. If a portable tub is used, it should be deep enough for the child to sit up to its neck in the water. Immediately after being undressed, to wet its head is the first step, and not until that is done ought the little one to be placed in the tub, and then it should be thoroughly washed with a soft cloth or a sponge.



CHAPTER XVII.

Bathing of infants. — Soaps which are forbidden. — Those which may be used. — Washing the head. — Common delusions. — Treatment after bathing. — Expedient when a child fears the bath. — Toilet powders. — Inexpensive substitutes. — How often to bathe. — Only gradual changes in the temperature allowable. — Cold sponging. — The hot bath. — Mustard bath. — The cooled bath. — Imperative necessity of cleanliness in the person of the mother. — Bathing the breasts.

THE best soap to use in washing children is the pure old castile soap. Scented soaps are forbidden, as it is possible for strong perfumes to conceal the presence of rancid fats. In washing a baby, soap may be used generously, a lather made and plentifully applied to the whole body and the head. The latter is frequently neglected, and, as a consequence, crusts form, which many foolish mothers allow to remain, fearing the brain would be affected were they removed. Hard water is unfit for a child's bath.

As previously said, the little one should be bathed quickly, and removed from the tub within from three to five minutes; the shorter the time, the better. Then the body must be enveloped in a warm Turkish towel, and the surface be rubbed all over briskly, and

thoroughly dried. After this is done, some simple powder of unquestionably good quality may be applied from head to foot. Loosely wrapped in flannel or a light blanket, it should remain before the fire until thoroughly warmed and rested, and finally be dressed. If a child seems to fear his bath, the expedient of Starr is recommended. The tub can be covered over with a blanket, and the child being placed upon it, be slowly lowered into the water without seeing anything to excite his fears.

In the selection of toilet powder, mothers should use great care, and appreciate the possible danger from adulteration. Those who can afford to do so should purchase the best which can be procured from thoroughly reliable druggists. The low cost preparations on sale are condemned in toto. The poor will find Fuller's earth, or finely powdered starch, a good substitute for the expensive powder. Corn flour is sometimes used, and answers the purpose well. The *Lancet*, in 1878, recorded a very sad case of arsenical poisoning, in which a child died at the age of ten days from the use of so-called violet-powder, containing more than one-third white arsenic.

It is generally accepted that during the first year of life, after the child is nine or ten days old, it should be bathed every day. During the teething period, if it suffers much from that process, it may be neces-

sary to employ hot baths occasionally ; and they add much to the comfort of the little one, reducing fever, subduing pain, and quieting restlessness. In very warm weather, if children suffer much from the heat, a bath at 90° during the hottest part of the day is more cooling and refreshing than one at a lower temperature.

After the first year, the bath ought to be used every other day. As the child grows older, once in three days, especially in cold weather, will be quite often enough. The fact is recognized that older children habituated to warm baths are usually susceptible to taking cold. It is important, therefore, after they have reached the third year, that the temperature of the bath be steadily, though very gradually, reduced ; but the best authorities agree it should not, even for the most robust children of eight or ten years, be below 78°. This rule applies to general bathing. Sponge baths of cooler water, but never below 60°, may be given older children every morning, if robust and healthy ; they must be rapidly administered and followed by a brisk rubbing with a coarse towel, and exercise afterward encouraged. During the sponging, the child should stand in hot water of sufficient depth to cover the feet.

Weak and sickly children, in the matter of bathing, must be treated with exceeding care. They require

a much greater degree of warmth, and possibly warm baths alone will be admissible until they are eight or ten years old. If the effort is made to accustom them to cool sponge bathing, great caution must be used, and the effect as carefully watched.

When the temperature of a bath is between 95° and 100° , it is termed a hot bath. There are a variety of childish disorders in which it may be used with good effect. To relieve the nervous irritability which is so often present during the teething period, it is, as has been previously said, notably effective. A child should not be allowed to remain in a hot bath longer than five minutes, or depression is liable to result. It is made more stimulating if mustard is added to the water used; the quantity should be from a teaspoonful to a tablespoonful.

Occasionally, the cooled bath is ordered by physicians, and it is well for mothers to know how they are given. It is employed with advantage in some diseases characterized by intensely high fever. The patient is first put into the tub, the water of which is 95° ; the temperature of this is then gradually lowered to 70° ; cold water being slowly added, and from 20 to 30 minutes being occupied in the cooling process.

It has been insisted upon that not only should a child be frequently bathed, but all its surroundings should be kept scrupulously clean. The regard for

perfect cleanliness applies to the mother or wet-nurse as well as to the child. The one from whom the young infant receives its nourishment ought to maintain perfect cleanliness of her body, as it is an absolute essential to health; and unless she bathes sufficiently often, her milk becomes unwholesome.

There are some mothers who refrain from general bathing while nursing their infants, through fear of lessening the quantity of their milk; there are others among the lower classes who are remarkable for their want of cleanliness at all times. Under the restrictions which should govern them at other periods, the mother or wet-nurse may bathe frequently, and without fear of injury to herself or the child. Even sea-bathing may be occasionally indulged in, if confined to a mere "dip," and followed by a hand rubbing to restore circulation and promote immediate reaction.

Of the greatest importance is absolute cleanliness of the breasts; in attempting to encourage it, the physician often encounters another of the delusions which possess so many mothers. During the first few weeks, they consider it dangerous to apply water to the breasts, and feel that if they do so, abscesses will surely form there. This is as stupid a notion as it is possible for them to acquire. Every time a child nurses, the mother should bathe her breasts

immediately afterwards with lukewarm water ; and several times during the course of each day she ought to wash them carefully with soap and water. If this is not done, there is danger to the child, for it is well-known that uncleanness in those parts invites the formation of myriads of living parasites which render the milk unwholesome.



CHAPTER XVIII.

Clothing and sleep. — The mother's province invaded. — The binder. — It should be worn during the first year. — Under-clothing. — The proper material. — Essentials in children's clothing. — Night-dress. — Covering of the feet. — Of the head. — Dangers from exposure. — Precautions when out of doors. — Common faults to be avoided. — Overburdening with clothing. — Sleep. — Good habits to encourage. — The amount of sleep required during childhood.

ONLY a few suggestions will be made regarding the clothing of infants. Mothers, as a rule, are inclined to resent any professional interference in this matter, which they evidently consider is absolutely within their own province. The subject is, however, one of infinite importance, and, since it is known from experience that errors are committed by some mothers, at least a few hints on the baby's garments will be ventured.

One common fault to criticise is in the making of the binder which is applied after birth. Many mothers hem them, and, as a consequence, the ridges are uncomfortable, and sometimes irritate the baby's tender skin. The edges should be raw, or simply "overcast" with silk. Again, the binder

should be carefully proportioned to the little one's size. If too wide, and it comes up on the ribs, the respiration will be interfered with; and if too narrow, then it is worthless. Some mothers draw it too tightly, and, after the child has been fed, and his stomach is distended, he, of course, suffers much discomfort. This essential piece of clothing is frequently left off after the child has reached the fourth or fifth month, it being deemed by incautious mothers no longer needed. It should be worn until after the little one is a year old.

The articles of clothing worn by an infant should be as few in number as possible; they should be loose fitting and easy of adjustment. At an early age, it requires much warmth; this mothers realize, and very often go to the other extreme, and bundle their little ones altogether too much. The underwear should be of woollen material, both in winter and in summer, the thickness varying with the season. The rule of discarding the undervest worn during the day, and having one for night wear alone, must not be forgotten, as it is of great importance in the preservation of health.

- If the underclothing is of the character advised, the outer clothing, provided it is loosely fitting, may be left to fashion and the taste of the mother.

One thing about dressing a child is to be remem-

bered: Every article of clothing should be so made that it will be easy of adjustment. Tugging at the arms of an infant not only causes much pain, but it is liable to do actual injury to the delicate joints.

To insure protection against a possible chill at night, the baby's night-dress for winter should be made of flannel, with a long skirt, and a drawing-string at the bottom. Then if he kicks off the bed-clothing, as he is most certainly apt to do, there will be much less danger from the exposure. Care must be taken to keep his feet warm both day and night, therefore woollen socks ought to be constantly worn, at least in cold weather.

The covering which is proper for the head of a child when out doors, as one writer has said, must evidently vary considerably in different seasons, and in different states of the weather. Many a young child, with scanty growth of hair, has contracted that painful disease, inflammation of the ear, followed perhaps by a protracted discharge, and more or less impairment of hearing, in consequence of taking cold from insufficient covering of the head and ears in inclement and changeable weather; even leaving off accidentally a band or tie to which a child is accustomed will sometimes give it a cold. In winter, the cap should be quite thick and close fitting, while in summer, it ought to be light and cool,

and ample protection against the fierce rays of the sun.

It would appear that mothers too often consider children's cloaks more for ornament than for protection against cold. Instead of being wrapped around the little ones while they are being carried about, not infrequently, in severely cold weather, one sees a child supported by the arm of the mother passed beneath the cloak to avoid crumpling it. Hanging in this way, it is much less protection against cold, and at the same time the whole weight of the garment drags on the baby's neck. To add to the discomfort, usually the cloak is tied tightly about the same, half strangling the little one.

Mothers are not, as a rule, likely to allow their children to suffer from the cold; they by far more often overburden them with clothing, a practice which is scarcely less pernicious. An infant sweltering under too heavy clothing, as a consequence is not only rendered exceedingly uncomfortable, but it is much weakened, and becomes far more sensitive to cold. For one so ill-treated, even slight exposure is sufficient to induce a serious catarrhal, febrile, or bowel affection. How to avoid the two extremes must be a matter of study for mothers, and it is impossible to exaggerate the importance of it. They must not forget that, like themselves, their infants

feel the coming of summer, and during that season are entitled to much lighter coverings.

The subject of sleep may seem a very commonplace one to discuss, and yet, if mothers were more familiar with it, it would be not only infinitely better for their little ones, but for themselves as well. Starr says one cannot too soon begin to form the good habit of regularity in sleeping-hours; and, so far as circumstances will admit, the following rules may be enforced: From birth to the end of the sixth or eighth month, the infant must sleep from 11 P.M. to 5 A.M., and as many hours during the day as nature demands, and the exigencies of feeding, washing and dressing will permit. From eight months to the end of two and a half years, a morning nap should be taken from 12 M. to 1.30 P.M., the child being undressed and put in bed.

The night's rest must begin at 7 P.M. If a late meal be required, the child can be taken up at about 10 o'clock; but if past the age for this, he may sleep undisturbed until he awakes of his own accord, some time between 6 and 8 A.M. From two and a half to four years, an hour's sleep may or may not be taken in the morning, according to the disposition of the subject; but in every case, the bed must be occupied from 7.30 P.M. to 6 or 7 o'clock on the following morning.

After the fourth year, few children will sleep in the daytime; they are ready for bed by 8 P.M., and should be allowed to sleep for ten hours or more. A later retiring hour than 9 P.M. ought not to be encouraged until after the 12th or 15th year.



CHAPTER XIX.

Rest and sleep. — Rocking children a hurtful practice. — Important rules to be observed. — How to quiet the baby. — Sleeplessness caused by cold. — An indication of illness. — Sleeping-medicines. — Dangers from their use. — Soothing syrup which has killed many. — Paregoric elixir. — Its effects. — When its use is permissible. — One occasion for a physician. — Children's sleeping-rooms. — The vital importance of pure air.

IF a baby is laid down for the purpose, and it does not seem inclined to sleep, the first thing which the average mother does is to rock it. The remedy is quite effective, but far from being a judicious one. Rocking induces sleep, but it is by causing an increased flow of blood to the brain, which, in childhood, is exceedingly delicate and easily congested. Rocking-cradles are now but little used, and if fashion would also frown on rocking-chairs, it would be a blessing to infants. For mothers to rock or "hush" their children to sleep by gentle movements and soft sounds is a foolish habit, which, if once formed, is not easily broken.

Quite naturally this statement will be protested by nearly all mothers, and not unlikely many will say that the writer's knowledge of the care of children

must be limited; "that he will know more about them when he has a family of his own," etc. Therefore, in self-defence, he is obliged to quote the opinion of a lady physician on the subject; surely mothers will believe her: "If a child is from the first laid in its cot to sleep, without further attention, it will fall asleep just as readily and easily as with any amount of assistance; but if once it is accustomed to expect attendance, it will be very unwilling to dispense with it, and if for any reason this is not forthcoming, the baby will cry and fret, and perhaps lose half its sleep. The mother or nurse will, therefore, do wisely not to create an artificial want, which, if created, will probably become a burdensome tax upon herself." If a child will not sleep, the mother should take it in her arms and sing to it, or do anything else within reason, but to rock it is not only improper, but entirely unnecessary if the baby is treated rightly in its early life.

One hint may be of assistance. When the little one is cold, it is very likely to be sleepless; therefore, when no other cause for its continued wakefulness is apparent, let the mother take it to the fire, the warmth of which will have a tendency to promote sleep. At this point it is well to emphasize the fact that if a child does not sleep as much as children of its age generally do, then there is good reason to

believe that it is not well, and the cause should be sought. If the mother cannot determine it, then the services of a physician are demanded.

Under no condition is the mother justified in experimenting upon her infant with opiates, or in using any of the patent medicines which are so often administered to children. On this subject it is believed that the people generally show better sense than they did years ago, when, among a certain class, the advent of a baby in a home was signalized by the purchase of a bottle of soothing syrup.

One nostrum, especially, which bears a most seductive name, familiar to all, mothers once felt was absolutely indispensable in every nursery. This "soothing syrup" has, without doubt, assisted in sending thousands upon thousands of little ones to "sleep from which there is no awakening." The *Medical Times and Gazette*, in 1870, published an analysis of this pernicious preparation, showing that it owed its "soothing," or, what is better, its stupefying properties, to absolute alcohol; an agent which is as capable of injury as any of the narcotic poisons.

If a child sleeps but little, and is fretful and troublesome, it is certainly ill; and if a mother fails to recognize this fact, and is contented in the belief that it is simply naturally cross, she does her little one a grievous wrong, and the consequences of neg-

lect to apply the proper treatment are likely to be very serious indeed.

Patent medicines, of whatever nature, are absolutely forbidden children. If a quieting mixture is needed in the nursery, there is one only which is allowable, and that is paregoric. There are occasions when a mother is justified in giving this remedy, but continued wakefulness is not a symptom for which it should be used. Paregoric, or, properly, paregoric elixir, owes its action to camphor and opium. If a child is ill, as indicated by wakefulness, nervous irritability, crying, etc., a dose of paregoric is quite certain to relieve it for the time, and to produce sleep, but rarely will it have a permanent and curative effect ; more often, as soon as the drug ceases to act the symptoms return, and the child suffers as before. In fact, in very many cases in which mothers give paregoric, that agent simply alleviates, without removing the cause ; and thus, by its continued use, serious diseases may be kept in concealment until recovery from them is impossible.

If an infant suddenly becomes restless and wakeful, and the methods which the mother usually employs do not quiet it, then, if she cannot determine the cause and remove it, and she will not send for a physician, which is the safest course for her to pursue, let her immediately administer a dose of

paregoric. If, after the effect has passed off, the troublesome symptoms return, there is no longer any excuse for delay, and she is criminally negligent if she does not seek professional advice.

The sleeping-rooms of children should be large, airy, and well ventilated ; without pure air in sufficient quantity it is absolutely impossible for them to be healthy and thrive generally. How few parents there are who realize this fact ; if all would do so, the mortality among children would be infinitely less.

On the subject of ventilation but little has been said, for it is utterly impossible for a writer to do justice to it in a work of this character, and to correctly estimate the value of pure air. It is feared that people will continue to pack their little ones into sleeping-boxes scarcely fit for animals of the lowest order. Allot for the children's use the largest and most pleasantly situated room in the house, and, if the rooms at best are small, then no one at night should contain more than two children.



CHAPTER XX.

The sleeping-apartment. — Situation of the crib. — The amount of pure air needed by children. — Dangers from overheating during sleep. — That cooking-stove. — Sanitary requirements. — The furnishings. — Dangers from stationary basins. — Proper ventilation too often neglected. — How to secure it. — Bed-coverings. — Expedient to prevent children from throwing them off. — Death in foul air. — The nursery. — How it should be kept. — Vile practices which are common.

DURING early infant life the baby will, of course, share the apartment of its parents. It should not, however, share the bed as well, but always sleep in a crib, which can be placed near at hand. It is important that at all times the little one be kept out of currents of air, and his crib must not be placed between a window and door. When the child becomes older and is assigned to an apartment away from its parents, they should study well the question of ventilation, remembering that fully two-thirds as much pure air is required by the child as by the mother.

In some homes, different rooms are used for the day nursery and the sleeping-apartments. This is an admirable provision, for then one can be thoroughly

aired while the other is occupied. In the homes of the poor, forced to be content with a few small rooms, the problem how to care for their children properly is an exceedingly difficult one to solve. Above all things else, let them keep them out of the kitchen and away from the cooking-stove during the day, and if they must be put into small bedrooms at night, the windows should be opened sufficiently to insure purity of the air within.

The sanitary condition of a child's sleeping-room should be as near perfect as it is possible to make it. It must be so situated that the direct rays of the sun can enter for a certain period each day. Its internal arrangements should be of the simplest character consistent with convenience. As little furniture as possible should be the rule, and comparatively bare walls and floors are far healthier than when adorned with pictures and covered with carpets. A stationary basin, draining into the sewer, is positively forbidden, notwithstanding the most approved system of plumbing; nor should the sleeping-room connect with the bathroom. In fact, not only should every precaution be taken against the entrance of unhealthy gases and odors from without, but nothing should be allowed to remain within the room which in the slightest degree renders the air impure.

One of the greatest difficulties which physicians

encounter is to secure for their patients proper ventilation, and when the need of pure air for their children is urged upon mothers, they will very likely allow the window to remain open while the doctor is present, but are quite certain to close it before he reaches the street. It is not too much to say that, excepting when a child is being bathed, the windows of the nursery should never be entirely closed ; even in the most inclement weather one may be kept open a trifle at least.

During cold weather, if a room becomes too warm, the first thing people generally do is to shut off or lessen the supply of heat ; rarely does it occur to them that it would be far better if they lowered the temperature by opening a window. If the room where a child sleeps is small, and there is danger from draughts if a window is left open during the night, then it must, of course, be kept closed, but in the room adjoining a window should be open sufficiently to properly ventilate both apartments.

The natural tendency of children to toss off their bedclothes at night so alarms mothers that they can scarcely be persuaded to admit air into the sleeping-room as they ought. This danger can be largely removed by having tapes attached to one or more blankets ; by this means they can be tied to the sides of the crib or cot, and cannot be wholly thrown off by the movements of the sleeper.

Again is the importance of pure air in the rooms allotted to children strongly urged upon parents, and no language can be too emphatic, for in ill-ventilated apartments the little ones languish, become pale, feeble, and sickly. Their constitutions are so undermined, poisoned by stagnant and impure air, perfect development is absolutely impossible, and the diseases common to childhood find them ready victims, death occurring, not because those diseases are in themselves so fatal, but because the children attacked have not the strength to rally and throw them off. Perfect ventilation and strict cleanliness go hand in hand. Without the latter, it is utterly impossible to keep the air of a room pure.

There are but few parents, no matter how poor, who cannot set apart one room, at least, for their little children, and dignify it with the name of nursery. This should be kept scrupulously clean; the floors should be uncarpeted, but covered by small mats, which can be shaken and well aired every day. Nothing damp or ill-smelling should be suffered to remain in it for a moment, and especially is that custom of drying in the room with a child napkins which have been rendered offensive, condemned as simply barbarous. In fact, when once dampened by the child, there is no place where they should be dried until they are first washed. Intelligent mothers will

doubtless think this statement unnecessary, believing that none are vile enough to put napkins, which have been wet, in use the second time without first washing them. If these critics could accompany a physician on his visits for one day only, they would see for themselves that all mothers are by no means the personification of neatness.

A word regarding the bed-clothing of children. Feather beds are even more unhealthy for them to sleep upon than they are for adults, for at no period of life are emanations such as are given off by these abominable contrivances more injurious than during the feeble and susceptible age of childhood. On a good firm mattress of the best quality the parents can afford, their child should sleep.

Besides the linen or cotton sheeting, let the coverings be blankets only. A cotton "comfortable" is a companion nuisance, and should be banished with the feather bed. It is too heavy; it weakens and renders the sleeper restless, and the little one shows by far better sense by kicking off such a covering than the parents do who put it over him.



CHAPTER XXI.

Heating and lighting. — Serious consequences of excessive heat. — Susceptibility to cold. — How it is invited. — The proper temperature. — Danger lurks during the teething period. — Peculiar liability to brain disease. — Keep children out of the kitchen. — Incautious mothers and sad results. — Burned to death. — Lighting the nursery. — Objections to the common methods. — Hints on the use of oil and gas. — Electric light.

IN the management of young children, of the greatest importance is a proper regulation of the temperature of the rooms occupied by them. There is no disputing the fact that, as a rule, they are kept much too warm, and serious consequences invariably result if this fault is persisted in. Nothing, says Eberle, tends more directly to enfeeble and relax the human body, and to predispose it to the injurious influence of cold and atmospheric vicissitudes, than habitual confinement in heated rooms. Struve, like all other writers, emphasizes this danger. Warm rooms, he says, in my opinion, principally contribute to the extraordinary mortality of children who are carried off by convulsions in the first months of their lives. As they daily become weaker from the constant action of heat, every draught of air occasioned

by opening the windows and doors is dangerous to their organs. It is an established fact that in the proportion as we habituate ourselves to warm dress and heated apartments, so do we render the body more liable to be injured by exposing it to the influence of fresh and cold air.

Mothers of children who are peculiarly susceptible to cold, and are constantly suffering from coughs and catarrhal affections, should understand that the remedy is with them. By far too often they fail to appreciate this fact, and dose their little ones with medicines, when all that is needed is the application of a little common sense. Let them provide for their children sufficient pure air, and accustom them while in the house to a temperature between 66° and 70°, never higher than the latter in the winter, and they will no longer have reason to complain that the little ones are "constantly catching cold."

Confinement in overheated rooms has a destructive influence at all periods of life; it is even greater during childhood, and the danger from it is intensified in the teething period. At that time there is naturally an increased flow of blood to the brain, and infants, as all know, are then more irritable, and are especially liable to be attacked with inflammatory affections. The brain, so delicate and susceptible to injury during childhood, is, while an infant is cut-

ting its teeth, peculiarly liable to disease: hence the need of even greater caution in its management, and a careful protection from excessive heat, which certainly conduces to congestion of that very vital organ. It is also imperative that, during that trying period, the infant be protected from all other influences which tend to increase in any way the irritability of the system, then susceptible to an unusual degree.

The imperative need of allotting one room, at least, to the use of very young children, has been insisted upon. There is a danger which threatens little ones who are permitted by incautious mothers to be in the room where cooking, washing, etc., is going on, which has not been referred to, and yet, slight as it may appear, it deserves special mention. It is the danger from burns and scalds. Serious accidents of this character are constantly occurring to children, and deaths from them are not infrequent. There are but few physicians who cannot tell of cases where young children have fallen into tubs or kettles of hot water, and suffered terribly or died in consequence.

A sad case recently occurred in Boston, the facts of which reached the writer through the attending physician. A child was playing in the room where cooking was going on, the special work being the

making of squash pies. A quantity of squash had been boiled in a large kettle, and removed from the stove and placed on the bricks in front of the same. A little child playing about the room stood for a moment in front of the kettle, back to it, and then, undertaking to step back without looking, sat down in the boiling mass, which every housekeeper knows is as hot a mixture as can be made. As might be expected, death resulted in a few hours. Accidents similar to this are not so uncommon as many might suppose, and that they do occur, justifies the writer in calling the attention of mothers to the possible dangers.

The lighting of a nursery is a point which may not improperly be touched upon. At this period, gas or kerosene oil is the means employed in nearly all houses; there are serious objections to both. Gas vitiates the air of a room very rapidly, and more than twice as much oxygen is consumed by one gas-burner as by a human being. Kerosene oil is objectionable by reason of the odor which is given off from lamps in which it is used, unless the same are kept absolutely clean. If turned low, they absolutely poison the air, and are a potent cause of catarrhal affections of the nasal passages and throat.

Instead of either gas or oil, it would be better to

use candles for lighting the rooms occupied by children. There is one custom among those who use gas, which is unsafe, especially in sleeping-rooms. That of turning the burner very low is referred to. The light may be put out by a change in pressure at the source of supply, and thus allow a leakage of gas, which is always very dangerous.

If the time ever comes, says one writer, when the electric light is a familiar luxury, it will probably be found particularly suitable for nurseries, as it does not consume the air as gas does, and is even said to have a beneficent effect, second only to that of sunlight, as regards vegetation, and, therefore, possibly also as regards human life.



CHAPTER XXII.

Open air exercise. — Elderly mothers contrasted with those of the present day. — Health depends upon an abundance of pure air. — When to take the baby out. — Accustom him to sudden changes. — An important duty often neglected. — Out every day if possible. — Protected from cold. — From the sun. — Veils forbidden. — Baby carriages. — Their use and abuses. — Spinal weakness. — Lasting injury the consequence of neglect. — Important rule.

NOT a few mothers have a traditional system of caring for their children, which was practised by their mothers and grandmothers before them, and so great is the force of antiquity, by no amount of argument can they be convinced when in error, and hence are transmitted ideas on management quite as irrational as the results of the crudest inexperience. In this connection it is interesting to note, on the authority of "M'Culloch's Statistics of the British Empire," that in the twenty years, from 1730 to 1750, the total deaths under five years of age amounted to more than seventy-four per cent of the total births during the same period. Dr. Michael Underhill also states that during ten years in the last century "the average births within the bills of mortality was 16,283,

out of which were buried under five years of age 10,145," or about sixty-two per cent. Thus it appears that even the present extraordinary mortality is considerably less than it was one hundred years ago. The natural inference is that mothers of this age are wiser in the management of children than were those whom they so often quote as authorities not to be disputed.

It is believed to have been the fashion in old days to imprison a baby in the nursery for a much longer time after birth than is now done. Starr sets the age when children may be first taken out of doors as four months for those born in the early fall and winter, and one month for those born in the summer. Many other equally as reliable authorities agree with him on this point; and yet some physicians allow healthy children in the mildest season to be taken out on the second or third day of their existence if the weather is fine, and they claim that no harm, in their experience, has resulted from such a practice. Considering the conflict of opinion, it would be well to keep a child at least two weeks in the house, even if the season is mild and the weather pleasant, and then, when taken out, they should be gradually accustomed to the change.

When babies have arrived at the proper age they should be taken into the open air at least once a day,

if the weather permits. In the cool months, about noon is the best time for the airing, it being the warmest part of the day ; while in the hottest part of summer the morning should be chosen. The safest course to pursue is to gradually prepare a child for its first visit to the outer air in this way : Two weeks before it is taken out, the mother should frequently carry it out of the room which it usually occupies, into others slightly cooler, gradually lowering the temperature of the latter day after day by opening the windows, until it is a near approach to that of the open air. By this means the little one will become accustomed to sudden changes, and will be much less liable to take cold when it enters for the first time the external air. Five, or at least ten minutes, will be sufficient for its first outing, but the duration of his stay out of doors should be gradually extended as he grows older.

Mothers must understand that upon the daily enjoyment of fresh and open air depends in a great degree the health of their little ones ; it is, in fact, absolutely indispensable to their well-being. Too many mothers by far fail in this important duty. Because they have so many and such burdensome domestic cares, they feel that they cannot spare the time to take their little ones out every pleasant day. With this excuse they satisfy their conscience, and

feel that they cannot be held responsible for the omission.

Many mothers are, it is true, overwhelmed with the burdens of life; still, in the care of children, they assume the gravest responsibilities; they should do what they know to be right by them, and if forced to neglect some of their duties, let the weight of omission fall, not on innocent children, but upon those who are better able to bear it. When the weather permits, therefore, they must see that their infants are taken out into the open air once a day, at least, at first, and after a few weeks twice daily will be none too often.

In cold weather, of course, an infant should be amply protected by sufficient clothing. The outer covering should, like the inner clothing, be of light weight, and must not be too tight at the neck. Instead of cloaks for winter wear, it would be far more sensible if fashion would frown on them, and favor soft warm shawls. Protection for the eyes is demanded, for in early infancy they are singularly liable to be affected by the glare of the sun. Veils or other coverings for the face are, however, forbidden, as they deprive the little one of pure air. The mother must, therefore, use a parasol or some other means to shield it.

The subject of "baby carriages" is one which may

not improperly be touched upon, for they are of value ; and yet they can be made a source of injury to those by whom they are used. They are a benevolent invention for the none too strong and hard-worked mother, who would soon be exhausted by the weight of her child. Before considering the abuses to which these carriages are sometimes put, it is necessary to consider one important fact bearing upon the subject. The spine and muscles of an infant require time to mature, and seldom do they acquire sufficient strength to allow it to sit upright, without risk of injury, before the third or fourth month. Until this period is reached, an infant should be kept nearly all the time in a reclining position, and when suffered to sit with its body erect, the head and trunk should be properly supported. Therefore, if a young infant is given its airing in a carriage, it must lie extended in the same, and this rule should be observed until it is ten or twelve months old.



CHAPTER XXIII.

Holding the baby. — Common faults. — How the happiness of home is threatened. — Grievous mismanagement characterize many mothers. — An infant may prove a misfortune. — Who is to blame. — A picture true to life. — Keep infants in their cribs. — An idiotic practice. — Trotting on the knee. — Creeping. — Walking. — Let a child mature gradually. — Moral infirmities to be anticipated. — Teach it to be fearless and self-reliant.

AT this point it is well to say that quite a natural fault, and one exceedingly common, is for mothers to hold their infants altogether too much. By so doing they inconvenience themselves and injure their little ones. Very many mothers say that "it takes about all their time to attend to the baby." In almost all instances where this is true it is their own fault. When once the bad habit is formed of taking the little one up as soon as it shows signs of waking, is restless, or disposed to cry, the mother is henceforth a slave to its caprices, and no tyrant can be more exacting. This is by no means a trifling matter. Into every home, however poor and humble, a baby should bring the sunshine of happiness; but does it always do this? It is doubtful if a single

parent can be found to say no ; and yet there are not a few who would, if they gave honest expression to their thoughts, say that the coming of the little one was a misfortune. The reason is obvious to the students of human nature, who are influenced by what they see, as well as by what they hear, and doubt the latter in the absence of proof.

If healthy, and a baby is properly managed from the first, it ought, in its early months of life, pass fully eighteen hours in sleep. As age advances, the amount required becomes less, but even at two years, it ought to sleep thirteen or fourteen hours out of the twenty-four. There are more children who do not get this amount of sleep than there are who do, and yet it is essential to their well-being. Now it is clearly apparent that mothers who are forced "to do their own work" need not sacrifice so much time to their infants as many do, and neglect other important cares ; it is when they do neglect their other duties that distrust as to the actual blessing in the form of the baby begins.

There are, of course, exceptions, but in too many homes evidence is not wanting that the advent of a baby is more or less of a hardship, which is shared by every member of the family. The mother, poor soul, finds her cares multiplied ; and if the new comer is troublesome, she may be forced — if not, she soon finds

it easy—to neglect, or but imperfectly perform, her household duties. Disorder is most often the first symptom manifested; and this is soon followed by a lack of cleanliness, first in the mother's appearance, then in her surroundings, and finally the little one suffers from this grave fault. The husband finds his home less inviting, and the cheering influence of the baby can scarcely compensate for the doleful change which has taken place about him. Both he and the mother, unfortunate through her own fault of management, must soon ask themselves, neither daring, however, to breathe a doubt to the other, "Was it, after all, for the best?" Many readers will say that it is drawn from the fancy of the writer, and yet not a few will recognize the picture as true to life, barely outlined though it is. Since the subject has been introduced it may be followed a step further.

If a mother once falls into the habit of neglecting herself or her household duties, be it through fault of her own or from force of circumstances, it will cling to her through life, and embitter, not only her whole future, but also the future of her family. One might naturally ask what bearing this has upon the management of children; it has a most important bearing, for many a well-meaning mother has acquired those fatal faults, neglect, uncleanness, and kindred disorders of conduct, with her first child.

Therefore there is something beyond the welfare of children, of infinite importance though it is, which must be considered : it is the well-being and happiness of their parents as well.

When maternal cares are assumed, not only should the responsibilities be appreciated, but of scarcely less importance is it that the mothers know of the pitfalls into which it is possible for them to stumble. Let young mothers, therefore, assume their duties trained or prepared for the work which is before them ; and they should see to it, or those who hold their welfare "near at heart" should see to it, that they are wisely taught.

No more wholesome advice can be given mothers than this, — hold your infants in your arms just as little as possible. In the intervals between feeding, washing, dressing, and outings, let them remain in their cribs as much as possible, until they are old enough to creep, which will be, for a healthy child, after the age of nine or ten months.

There is one "idiotic practice" which one sees indulged in often enough to make it necessary to caution mothers against it. The habit of tossing young babies is referred to. It would seem that no sensible person would jeopardize a baby in this way ; but many do, while yet the spine and muscles are weak and imperfectly developed. Deaths have been

recorded from this lumbering effort at play, concussion of the spinal cord occurring.

There is another habit, by no means uncommon, which is nearly, if not quite, as pernicious: it is that of "trotting the children on the knee." Not only does it endanger the spine of an infant, but it is likely to disorder important internal organs. All these bad habits are easily formed; unfortunately, one is naturally inclined to fall into them, doubtless from communication, as they are quite too common. Therefore, the advice is repeated for the purpose of emphasis: Do not take your baby up until you are obliged to, and then return it to the crib as soon as possible.

When a child reaches the ninth or tenth month, if healthy, it will begin to creep about, and two or three months later will make efforts to stand. It is at this age that parents frequently err by encouraging the little one to walk before its muscles are strong enough to sustain the weight of the body. If left to themselves to develop properly, children, as a rule, will not be able to walk before they are sixteen months old, and many cannot do so before the twentieth month. They vary much in this respect, and, if a child seems backward in walking, it should not be urged to make the attempt, at least not until it is nearly two years old.

After a child is able to walk, care must be taken at first that too much of this exercise is not encouraged. In fact, let nature develop the little one, and leave him to follow her promptings. When the weather permits, he should be taken out each day, and, if a grass plot can be found, there let him run and tumble about as he pleases.

At this stage in life it is not too early to begin to cultivate in children a reliance on self, and to inspire them with courage and spirit, which is sadly wanting in the young of this effeminate age. Babyhood is too often perpetuated. By oft-repeated lessons of caution, children become timid, helpless, and irresolute. Fond mothers lavish upon them the most extravagant expressions of sympathy for every little fall, trifling injury, and even disappointment, and the consequence is, they generally cry upon the slightest provocation, and continue that by no means pleasing demonstration until soothed by plaintive words and superlative commiseration. All this tends to effectually make children effeminate, timid, and spiritless; thus, by grievous mismanagement, they are endowed with moral infirmities which must prejudice their whole futures, and measurably impair their usefulness.



CHAPTER XXIV.

The education of mothers. — Facts repeated for the sake of emphasis. — The terrible waste of life. — Its preventable causes. — Ignorance and neglect in all classes. — Some mothers and their opportunities. — To bring up children properly is difficult. — Easily acquired prejudices. — Elderly advisers much to answer for. — Overworked mothers. — Penalty of poverty. — The duty which is demanded of all.

IS any apology for prolonging this subject needed, in view of the fact that nearly one-half the population die under the age of five years? Not only is this true of large cities, but the enormous waste of life in every community is simply appalling to those who realize that the greater part of it might be prevented, for the most potent causes of this terrible mortality are ignorance and neglect. There is not a physician who has been long in practice who cannot testify to the truth of this statement; and they will also tell you that ignorance of children's natures and needs, and neglect to properly care for them, are by no means confined to the lower classes, although it is there that they are the most often found.

Among the higher classes there can be no excuse offered for these grievous, and too frequently fatal,

faults. Well-to-do mothers have opportunities for study; their physicians are ever ready to assist them to a better understanding of the laws of health and all which pertains to the care and management of children, and yet they do not always profit by such teachings. In the first place, not a few consider that physicians are altogether too exacting in their requirements; and this stupid assumption is the offspring of ignorance of children's needs.

It is believed that mothers in general feel that to bring up children properly is not difficult; certain it is that but few recognize the grave responsibilities which devolve upon them when maternal cares are assumed. Again, young mothers are generally the pupils of those who have had experience, and it is not too much to say that such courses of instruction are oftentimes exceedingly faulty. In this way, many prejudices are acquired, which no amount of argument ever eradicates in after life.

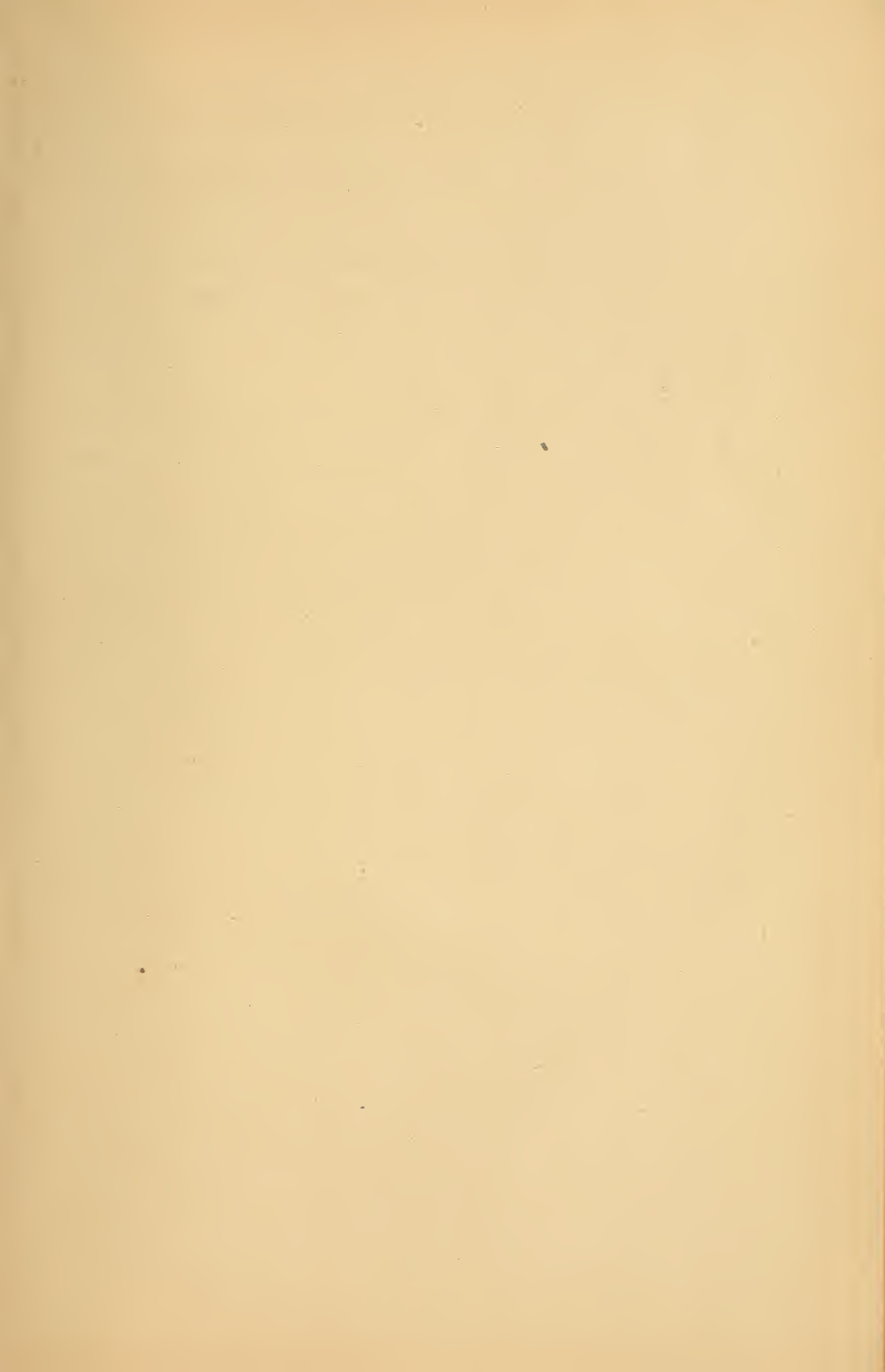
Not a few elderly mothers and nurses consider it one of their first duties to urge upon those whom they would teach, that "doctors don't know everything"; this is a modest way of theirs of assuming an eminent superiority. They very generally succeed in their purpose, and implant in the mind of the young mother a distrust of physicians, from which she never afterward entirely recovers.

The assertion is seemingly an unkind one, and yet truth sustains it; conceit and ignorance are too often blended in the composition of some mothers, and where they exist together the latter can never be overcome. Why these mothers will insist upon adopting an independent course of action in caring for their children, and meet with opposition the well-meant and valuable advice of their physician, is a problem unsolvable. The solution is made even more difficult when the fact is considered that if these same mothers become ill, they are the most obedient of patients.

Among the lower classes, there is some excuse for the ignorance and neglect which characterizes many mothers. Not a few are overwhelmed with heavy burdens; the increasing demands of domestic cares upon them tax every energy, and they are rendered spiritless and neglectful. Only when danger is imminent do they feel justified in calling a physician, for he must be paid, and to meet this obligation even greater economy, which they can ill bear, must be practised for days, and, possibly, for weeks after. Rarely, therefore, can they appeal to him for instruction, and they are guided by the crude experience which they may have acquired, or depend upon others for advice, whose ideas in the management of children are often quite as irrational and as danger-

ous as their own. Those mothers are not lacking in affection for their little ones ; they want to do their duty by them, and, unfortunately, too many feel that to provide them with food, keep them clothed, and to nurse them when ill, is about all that can be expected of them.

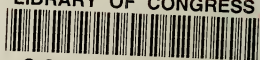
Whatever the causes of ignorance and neglect, the fact remains undeniable that two-thirds of the cases of illness among young children might be prevented by proper management. The mortality during infancy and childhood ought to be less than at any other period of life.







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